ORDER NO. 96-188

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BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 351

In the Matter of the Investigation into the Cost of Providing Telecommunications. Services.	ORDER

UM 351

TABLE OF CONTENTS

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Executive Summary

In this order, the Public Utility Commission of Oregon unbundles the telecommunications services offered by U S WEST Communications, Inc. (USWC), and GTE Northwest Incorporated (GTE) into network building blocks that will be offered by by tariff. We also adopt a set of prices for these building blocks. In addition, we resolve a number of outstanding issues relating to jurisdiction, imputation, network access channel deaveraging, pricing, use and user restrictions, resale, wholesale rates, and revenue requirement calculation.

Background. In 1990, the Oregon Public Utility Commission issued Order No. 90-920, opening an investigation into the cost structure of telecommunications companies. In that order, the Commission held that telecommunications services should be unbundled into network building blocks to respond to emerging competition in telecommunications markets. Phase I of this docket produced a methodology for calculating the incremental cost of telecommunications services. In July, 1993, that process culminated in the release of the Telecommunications Cost Report and building block cost data. The goal of Phase II is to implement the principles adopted in Order No. 90-920, specify the level and extent of unbundling consistent with the Commission's Open Network Architecture (ONA) rules, and determine the price changes required to foster competition and advance other important public policy goals.

Telecommunications Act of 1996. On February 8, 1996, the President signed the Telecommunications Act of 1996, which affects many of the issues addressed in Phase II of this proceeding. Among other things, the Act mandates the unbundling and resale of telecommunications services. Federal regulations implementing the Act are to be promulgated in August, 1996.

Commission Authority; Essential Facilities Doctrine. USWC, GTE, and United Telephone of the Northwest (United) (jointly the LECs) allege that the Commission lacks authority to order unbundling of telecommunications services except under the competitive zone law of ORS 759.050. As a consequence, they argue that the Commission may unbundle only essential functions within authorized competitive zones. The LECs also argue that the essential facilities doctrine of antitrust law should govern unbundling. We reject both of these arguments.

Unbundling. We adopt the unbundling proposal recommended by the Commission Staff. The Staff proposal is consistent with the level of unbundling contemplated by our ONA rules and the Telecommunications Act of 1996. The unbundling proposed by the LECs, on the other hand, does not fully comply with the Act or the requirements in our ONA rules. Although the LECs propose to make several building blocks available, a number of critical network functions are not included or offered only on a bundled basis. In addition to adopting the building blocks recommended by Staff, we adopt six additional building blocks proposed by various parties during the course of the proceedings. *See* Appendix C to this order.

Imputation. Imputation establishes a price floor on LEC services that include one or more network functions that other telecommunications service providers must use. Imputation requires a LEC to charge itself the same price that other providers must pay to purchase those essential functions from a LEC. In addition, the incumbent LEC must impute the cost of all nonessential functions necessary to provide the service. Imputation thus prevents a LEC from manipulating the price of LEC-supplied functions where adequate alternatives do not exist in the marketplace. In this order, the Commission reaffirms the imputation policy articulated in Order Nos. 94-1851 and 95-313 issued in this docket.

NAC Deaveraging. Currently, local exchange customers pay statewide average rates. Customers who are costly to serve--those who live in areas with low population density or who require longer network access channels (NACs or loops)--pay the same rates as other customers in their class who are less costly to serve. For prices to better reflect underlying costs, NAC prices may need to be deaveraged. Comprehensive deaveraging of NAC prices would cause significant rate shock for residential customers, however, unless mitigated or offset by contributions from the universal service fund. At this point, the Commission retains statewide average rates for local exchange service across all density and distance categories.

Pricing. The Commission's pricing policy is set forth in Order Nos. 90-920, 94-1851, and 95-313. We reaffirm those policies. In addition, we establish rates for the building blocks authorized in this proceeding. The building block rates are set forth in Appendix C. With limited exceptions, the building block rates include a contribution to joint and common costs. The building block rates apply to USWC and GTE, who must file compliance tariffs within 60 days of the date of this order. Under the federal Act, United is classified as a rural carrier, and is exempt from unbundling requirements at this time.

The tariff prices charged by the LECs for existing bundled services are not changed by this order. The Commission will examine bundled service rates for USWC in docket UT 125. GTE is required to submit an updated rate filing by January 1997. In addition, USWC and GTE have already filed tariffs for a number of building block services. Those tariffs are not changed by this order.

Several parties have recommended that the Commission authorize significant increases in residential service rates. We decline to consider such an adjustment until the revenue requirement proceedings have concluded for USWC and GTE, the updated cost study in docket UM 773 is complete, issues relating to universal service funding have been addressed in docket UM 731, and the FCC has issued rules to implement the Act. Once these matters have been resolved, the Commission will determine whether there is a need for a residential rate adjustment.

Use and User Restrictions. Use and user distinctions prevent customers who must pay higher rates from buying services under lower priced tariffs. Business customers, for example, are not permitted to purchase service under the residential tariff, even though there is little difference in the cost to provide business and residential service. In a monopoly environment, use and user restrictions allow regulatory agencies to maintain rate stability, enhance universal service goals, and pursue other public policy goals by establishing price relationships that do not necessarily reflect the cost of providing service. However, the advent of competition makes it much more difficult to maintain price differences that are not cost based. To the extent that current pricing structures impose pricing inefficiencies, customers will employ new technology or find other means to bypass the network. For this reason, we find that use and user restrictions should be gradually eliminated.

The issue of who may resell LEC services is related to use and user restrictions. As long as price differentials exist between customer classes, unrestricted resale would provide opportunities for tariff arbitrage. We adopt the position taken by the federal Act, that any telecommunications carrier may purchase building blocks. We take the language of the Act to include wireless carriers. Carriers who purchase building blocks may resell them without restriction. This position is consistent with Section 251(c)(3) of the Act, which contemplates resale of network elements combined to create telecommunications services. Carriers are also

authorized to purchase and resell existing LEC bundled services. However, we impose certain limitations on residential resale.

Wholesale prices and volume discounts are another form of use and user restriction, because they are generally available only to a limited category of purchasers. The federal Act requires LECs to offer bundled services to telecommunications carriers at wholesale rates for resale. Wholesale rates are defined under the Act as retail rates less avoided costs. We take no action on wholesale prices at this time. Instead, we will wait for the federal rulemaking in August to determine what action is necessary.

Revenue Requirement. Currently, the Commission determines one intrastate revenue requirement for interexchange access services and a separate revenue requirement for all remaining services, including local exchange service. We then develop rates for local and access services that capture their respective revenue requirements. This method frequently causes rates for similar network functionalities, such as switching, to be different for local and access services.

We adopt a single revenue requirement for all LEC intrastate services. LEC total intrastate revenue requirement shall no longer be allocated into local, EAS, and access/toll components. A single revenue requirement will allow the Commission greater flexibility in setting rates for intrastate services.

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Background

In 1990, the Oregon Public Utility Commission (Commission) issued Order No. 90-920, opening an investigation into the cost structure of telecommunications companies. In that order, at 12, we found:

> The transition from a monopoly environment to one which accommodates the existence of competition in some market segments creates a number of challenges from a regulatory perspective. The Commission must implement a regulatory framework that will foster universal service without jeopardizing development of new services or efficient utilization of the telecommunications network. Prices for telecommunications services must be set at a level that does not discourage consumption of advanced services or stifle modernization of the network. Telecommunications customers must have access to new and better services if Oregon is to attract industry and become a leader in technology and innovation as contemplated by legislative goals.
>
> In addition, the pricing policy adopted by the Commission must provide local exchange companies [LECs] with the flexibility to respond to competition from other suppliers of telecommunications services. To the extent that current rate structures impose pricing inefficiencies, some customers may take advantage of new technologies to bypass the local exchange network entirely. Others may simply elect to obtain services from a competitive provider at a lower cost. The record suggests that the potential for effective competition exists in a number of markets, including toll, private line, and central office services.
>
> The advent of competition and the opportunities for bypass imposes limits on the ability of regulatory agencies to adhere to traditional methods of pricing telecommunications service. . . . [I]t will be increasingly difficult to maintain policies which overprice certain services to perpetuate high levels of contribution to residential exchange service . . . . The economic reality is that utilities must be able to respond to competition if they are to obtain any contribution at all. At the same time, the Commission must protect ratepayers by preventing telephone companies from cross-subsidizing competitive offerings with revenues generated from monopoly services. . . .

> In short, traditional methods of pricing telecommunications services do not address the problems presented by competition and, as a result, have limited usefulness in the present telecommunications environment. New approaches must be adopted to ensure that the statutory goals prescribed by the legislature are achieved.

The Commission concluded that there was a need for a new, cost-based approach to ratemaking. The cost of supplying telecommunications service was to serve as the starting point for determining appropriate rate levels. Order No. 90-920 at 14. After evaluating several different cost methodologies, we decided that incremental cost analysis should be utilized. We found:

> Rates which reflect the incremental (or marginal) cost of service encourage better resource utilization by conveying accurate price signals to consumers of those services. If rates do not reflect incremental cost, consumers may be induced to make inefficient pricing decisions and waste valuable resources. . . . Incremental cost analysis is also essential to the existence of effective competition in the telecommunications industry. Economic theory holds that, in competitive markets, prices charged by competitors will gravitate toward long run marginal cost. Utilities must therefore be cognizant of marginal cost in order to determine if they are capable of competing with an alternate supplier of a given service. Moreover, as noted above, rate levels must at least equal marginal cost to ensure that cross-subsidization and anti-competitive pricing does not occur.

In Order No. 90-920, the Commission also decided to unbundle telecommunications services into network building blocks. We found that mandatory unbundling, uniform pricing, and nondiscriminatory availability of monopoly building block components of local exchange services are a necessary part of a regulatory structure designed to respond to competitive pressures. We further found that unbundling would enable us to establish a specific price for each building block and to ensure that all building blocks are available for purchase under the same terms and conditions, regardless of whether the building block is purchased separately or as part of a bundled service.

In addition, the Commission determined that the rate established for each monopoly building block should be imputed into the rates charged by a LEC for any service using that building block. We found that imputation is necessary to ensure that the LEC does not favor its own competitive offerings at the expense of monopoly ratepayers or dependent competitors who must purchase the same building block services from the utility.

Order No. 90-920 mandated a series of workshops to develop an incremental cost study and to address unbundling, uniform pricing, nondiscriminatory access, and imputation. We initiated this docket to resolve outstanding issues and implement the principles adopted in Order No. 90-920. To that task was added unbundling and pricing building blocks under the Commission's Open Network Architecture (ONA) rules, issued in June, 1993.[1]

Between 1990 and 1993, a series of workshops were held to define and identify network building blocks and develop an incremental cost methodology. This effort was designated Phase I of this docket, and culminated in the release of the UM 351 Telecommunications Cost Report and building block cost data in July, 1993.

[1]See Oregon Administrative Rules, Division 860, Chapter 35.

In Order No. 93-1118, issued August 10, 1993, the Commission adopted certain recommendations relating to the calculation of long run incremental cost (LRIC) for telecommunications services and network building blocks. We adopted (a) seven cost principles identified in the Telecommunications Cost Report; (b) a test for cross subsidization; and (c) categories and subcategories of building blocks to use as a framework for analyzing costs. We also adopted cost estimates developed by U S WEST Communications, Inc. (USWC) for certain network functions, and agreed to apply those cost results to other regulated local exchange utilities until those LECs develop or propose their own cost estimates using the approved cost principles.

In Order No. 94-1056, issued July 5, 1994, the Commission adopted revised cost estimates to supersede those approved in Order 93-1118, and approved new cost estimates for other network building blocks. We also directed that efforts to develop and update cost data should be continued. Order No. 94-1056 ended Phase I of this proceeding.

The purpose of Phase II is to determine the level and extent of unbundling consistent with the Commission's ONA rules, and the price changes necessary to foster competition in an unbundled environment. As a result of the workshops, in August 1994, Staff and other parties filed a "Memorandum of Understanding" (MOU) with the Commission in an effort to resolve a several outstanding issues.

At a prehearing conference held October 3, 1994, the Administrative Law Judge (ALJ) rejected the MOU and recommended an alternative procedure for resolving the disputed issues. Staff, USWC, GTE Northwest, Inc. (GTE), and United Telephone Company of the Northwest (United) (hereafter jointly "the LECs") appealed the ALJ's recommendation to the Commission .

In Order No. 94-1851, issued December 9, 1994, the Commission adopted the procedures proposed by the ALJ for Phase II. That order required the LECs to prepare three price matrices illustrating the rate consequences associated with the unbundling of network building blocks and implementing specified pricing policies. Staff was instructed to provide the LECs with a list of unbundled network functions, as well as the structure, parameters, and assumptions to be included in the price matrices. The purpose of the matrices was to aid the Commission in developing a pricing framework to encourage competitive entry without sacrificing universal service goals. The requirements for the price and cost matrices were set forth in a Staff memorandum issued on January 13, 1995.

In Order No. 95-313, issued March 29, 1995, the Commission granted an extension of time to file the price matrices, and responded to petitions for clarification and reconsideration filed by the LECs. The price matrices were filed by the LECs in April, May, and June of 1995.
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On May 23, 1995, a prehearing conference was held to establish a hearing schedule, develop an issues list, and address other procedural and substantive matters. On June 1, 1995, the ALJs issued a conference report adopting the following issues for Phase II:

Unbundling and interconnection
- a. Lineside interconnection
- b. Feeder/distribution outside plant
- c. Signaling ports and links
- d. Trunkside interconnection and transport
- e. Tandem switching

Imputation

NAC Deaveraging
Pricing, markups, and contribution
Use and user restrictions
Revenue requirement

The ALJs also approved a Staff motion to defer issues relating to Signaling and Message Functions (Issue 2), Universal Service(Issue 6), Direct Access (Issue 9), and Numbering and Number Portability (Issue 10) to other dockets.

Public hearings in this matter were held October 16-23, 1995, in Salem, Oregon, before Samuel J. Petrillo and Ruth Crowley, Administrative Law Judges. Appendix A, attached to this order, lists the parties who appeared at the hearing. Posthearing briefs were filed by the parties on December 15, 1995, and January 11, 1996.

On February 8, 1996, the President signed the Telecommunications Act of 1996 (the Act), which affects many of the issues addressed in Phase II of this proceeding. Portions of the Act are discussed below. The parties filed an additional two rounds of comments regarding the Act on March 8, and March 22, 1996.

Related Dockets

A number of other Commission dockets bear on the issues addressed in this order:

- Docket UM 731 addresses issues relating to universal service. On October 17, 1995, the Commission entered Order No. 95-1103 adopting a universal service proposal. Phase II of that docket deals with implementation of the proposal.

- Docket UM 773 deals with revised cost studies filed by USWC on September 29, 1995, in compliance with Order No. 94-1056. A hearing in that docket has been held, and an order is expected later this year.

- Consolidated dockets CP 1, 14, and 15 dealt with the applications of Electric Lightwave, Inc. (ELI), MFS Intelenet of Oregon, Inc. (MFS), and MCImetro Access Transmission Services, Inc. (MCImetro), to provide competitive local exchange service in the territories of USWC and GTE. Order No. 96-021 granted those applications pursuant to ORS 759.050, and created 14 competitive zones in the Portland metropolitan area.

Telecommunications Act of 1996

On February 8, 1996, the federal Telecommunications Act of 1996 took effect. The Act is designed to promote competition for local and long distance telephone services, and affects a number of issues pending in this docket. It requires that the Federal Communication Commission (FCC) shall establish regulations to implement many of the requirements of the Act within six months after enactment. The FCC issued its Notice of Proposed Rulemaking on April 19, 1996, and solicited comments and replies. The resulting regulations are due to be promulgated in August, 1996. (References in the Act to “the Commission” are to the FCC.)

The Act amends existing communications laws in many ways, but does not automatically preempt all State communications laws and rules. Section 601(c)(1) of the Act provides:

> No Implied Effect. This Act and the amendments made by this Act shall not be construed to modify, impair, or supersede Federal, State, or local law unless expressly so provided in such Act or amendments.

State commissions are given the responsibility and discretion to implement provisions of the Act, as long as the State policies and rules are not inconsistent with the provisions of the Act or regulations adopted by the FCC. Section 261 of the Act provides, in relevant part:

> (b) Existing State Regulations. Nothing in this part shall be construed to prohibit any State commission from enforcing regulations prescribed prior to the date of enactment of the Telecommunications Act of 1996, or from prescribing regulations after such date of enactment, in fulfilling the requirements of this part, if such regulations are not inconsistent with the provisions of this part.
>
> (c) Additional State Requirements. Nothing in this part precludes a State from imposing requirements on a telecommunications carrier for intrastate services that are necessary to further competition in the provision of telephone exchange service or exchange access, as long as the State's requirements are not inconsistent with this part or the Commission's regulations to implement this part.

Further, Section 251(d)(3) provides:

> (3) Preservation of State Access Regulations.--In prescribing and enforcing regulations to implement the requirements of this section, the Commission shall not preclude the enforcement of any regulation, order, or policy of a State commission that--
>
> (A) establishes access and interconnection obligations of local exchange carriers;
>
> (B) is consistent with the requirements of this section; and
>
> (C) does not substantially prevent implementation of the requirements of this section and the purposes of this part.

The Act is strongly procompetitive. Section 253(a) provides that "[n]o State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." Section 253(d) authorizes the FCC to preempt enforcement of entry barriers.

In aid of the development of competition in local telecommunications markets, the Act imposes on all telecommunications carriers a general duty of interconnection and a duty not to install network features that do not comply with guidelines set out in Sections 255 and 256 (Section 251(a)). In Section 251(b), the Act imposes on all local exchange carriers the duty not to prohibit or impose unreasonable conditions on the resale of its telecommunications services; to provide number portability in accordance with FCC requirements; to provide dialing parity to competing providers of telephone exchange and toll service; to give all such providers nondiscriminatory access to telephone numbers and certain ancillary services; to afford competitors access to the rights of way; and to establish reciprocal compensation arrangements for transport and termination of calls.

Section 251(c) imposes the following additional duties on incumbent LECs:

(1) Duty to negotiate.--The duty to negotiate in good faith in accordance with section 252 the particular terms and conditions of agreements to fulfill the duties described in paragraphs (1) through (5) of subsection (b) and this subsection. The requesting telecommunications carrier also has the duty to negotiate in good faith the terms and conditions of such agreements.

(2) Interconnection.--The duty to provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network--

(A) for the transmission and routing of telephone exchange service and exchange access;

(B) at any technically feasible point within the carrier's network;

(C) that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection; and

(D) on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, in accordance with the terms and conditions of the agreement and the requirements of this section and section 252.

(3) Unbundled access.--The duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this section and section 252. An incumbent local exchange carrier shall provide such unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service.

(4) Resale.--The duty--

(A) to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers; and

(B) not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications service, except that a State commission may, consistent with regulations prescribed by the [FCC] under this section, prohibit a reseller that obtains at wholesale rates a telecommunications service that is available at retail only to a category of subscribers from offering such service to a different category of subscribers.

(5) Notice of changes.--The duty to provide reasonable public notice of changes in the information necessary for the transmission and routing of services using that local exchange carrier's facilities or networks, as well as of any other changes that would affect the interoperability of those facilities and networks.

(6) Collocation.--The duty to provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements at the premises of the local exchange carrier, except that the carrier may provide for virtual collocation if the local exchange carrier demonstrates to the State commission that physical collocation is not practical for technical reasons or because of space limitations.

Section 251(c)(3) requires unbundling of LEC services into network elements. Section 3(a)(45) defines "network element" as:

a facility or equipment used in the provision of a telecommunications service Such term also includes features, functions, and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and

> information sufficient for billing and collection or used in the transmission, routing, or other provision of a telecommunications service.

Section 251(c)(3) provides that network elements must be made available to any requesting telecommunications carrier. Section 3(a)(49) defines telecommunications carriers very broadly:

> The term 'telecommunications carrier' means any provider of telecommunications services, except that such term does not include aggregators of telecommunications services (as defined in section 226).[2] A telecommunications carrier shall be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services, except that the [FCC] shall determine whether the provision of fixed and mobile satellite service shall be treated as common carriage.

Section 252 of the Act sets out the procedures that incumbent LECs and new entrants must follow to turn the requirements of Section 251 into binding contractual obligations. The Act contemplates voluntary negotiations between the parties. If parties reach voluntary agreement, their agreement need not satisfy the provisions of Section 251 or the implementing regulations for that section (Section 252(a)(1)), provided the agreement does not discriminate against a telecommunications carrier not party to the agreement and is consistent with the public interest. Section 252(e)(2)(A).

If the parties cannot reach agreement, the State commission is authorized to resolve disputed issues by mediation or arbitration. Sections 252(a)(2); (b); (c); (d). A commission mediated or arbitrated resolution must comply with the requirements of Section 251 and the regulations promulgated under that section.

Section 252(d) sets out the standards by which a State commission is to determine whether pricing of interconnection and network elements, transport and termination of traffic, and wholesale prices for telecommunications services are just and reasonable. Section 252(d)(1) provides that the prices established for interconnection and network elements shall be just and reasonable, nondiscriminatory, based on cost (determined without reference to a rate-of-return or other rate-based proceeding), and may include a reasonable profit. Under Section 252(d)(2)(A), charges for transport and termination of traffic shall provide for mutual recovery by each carrier of costs associated with transport and termination of calls that originate on another carrier's network. Costs are to be determined on the basis of a reasonable approximation of the additional costs of terminating such calls. Subsection (B) provides in part:

Rules of construction. This paragraph shall not be construed--

> (i) to preclude arrangements that afford the mutual recovery of costs through the offsetting of reciprocal obligations, including arrangements that waive mutual recovery (such as bill-and-keep arrangements) . . .

Section 252(d)(3) of the Act provides that the wholesale prices for telecommunications services offered by incumbent LECs to other telecommunications carriers shall be determined on the basis of retail rates charged to subscribers for the telecommunications service requested,

[2]Section 226(a)(2) defines an "aggregator" as "any person that, in the course of its operations, makes telephones available to the public or to transient users of its premises, for interstate telephone calls using a provider of operator services."

excluding the portion of the rate attributable to marketing, billing, collection and other costs that would be avoided by the LEC.

Section 254(g) of the Act limits the deaveraging of toll service rates. It provides that the FCC shall adopt rules by August 1996 which require that the rates charged by providers of interexchange telecommunications services to subscribers in rural and high cost areas shall be no higher than the rates charged by each such provider to its subscribers in urban areas.

Section 271 sets forth the conditions under which Bell Operating Companies (BOCs), such as USWC, and their affiliates may provide interLATA services within their service area. The FCC will approve BOC applications on a state-by-state basis. One of the requirements for obtaining FCC approval for in-region interLATA services is that the BOC must produce either an interconnection agreement with a facilities based carrier that has been approved under Section 252 or, under certain circumstances, a statement of generally available interconnection terms and conditions. In addition, all agreements and statements must comply with a "competitive checklist" set out at Section 271(c)(2)(B). Several requirements on the checklist reiterate the mandates of Section 251.

Section 251(f)(1) of the the Act creates an exemption from the provisions of Section 251(c) for rural telephone companies. It provides:

> Exemption for certain rural telephone companies.--
>
> (A) Exemption.--Subsection (c) of this section shall not apply to a rural telephone company until (i) such company has received a bona fide request for interconnection, services, or network elements, and (ii) the State commission determines (under subparagraph (B)) that such request is not unduly economically burdensome, is technically feasible, and is consistent with section 254 (other than subsections (b)(7) and (c)(1)(D) thereof).
>
> (B) State termination of exemption and implementation schedule.--The party making a bona fide request of a rural telephone company for interconnection, services, or network elements shall submit a notice of its request to the State commission. The State commission shall conduct an inquiry for the purpose of determining whether to terminate the exemption under subparagraph (A). Within 120 days after the State commission receives notice of the request, the State commission shall terminate the exemption if the request is not unduly economically burdensome, is technically feasible, and is consistent with Section 254 (other than subsections (b)(7) and (c)(1)(D) thereof). Upon termination of the exemption, a State commission shall establish an implementation schedule for compliance with the request that is consistent in time and manner with Commission regulations.

United maintains that it is subject to the rural exemption in Section 251(f). The Commission takes official notice of our records, which indicate that United is correct in its assertion.[3] Accordingly, we find that United is not subject to the negotiation, interconnection, unbundling, resale at wholesale rates, public notice of changes, or collocation requirements of Section 251(c) until a bona fide request is made and we determine that the request meets the standards set out in Section 251(f)(1)(A)(ii). However, we encourage United to voluntarily

[3] OAR 860-15-050(2) provides that a party may object to the fact noticed within 15 days of that notification. The objecting party may explain or rebut the noticed fact.

comply with the unbundling requirements set forth in this order. Under the statute, United would be subject to unbundling requirements upon a bona fide request and after a Commission determination of feasibility in any case.

Jurisdictional Issues

Commission Authority to Order Unbundling. The LECs allege that the Commission lacks authority to order unbundling of telecommunications services except under the competitive zone law, ORS 759.050.[4] That statute, they argue, only permits the Commission to require unbundling of essential functions within authorized competitive zones. The LECs also urge the Commission to apply the essential facilities doctrine of antitrust law to determine whether a service is essential. The LECs maintain that the essential facilities doctrine also applies under the Act.

In support of these arguments, GTE contends that the Commission must act within its "clearly defined statutory grant of authority." *Pacific Northwest Bell v. Davis,* 43 Or. App. 999, 1007 (1979). GTE acknowledges that the Commission has a broad grant of authority to review utility rate levels, but maintains that where the legislature's grant of power is narrow and specific, as in the competitive zone law, the Commission may not rely on other, more general, statutes to exceed the specific authorization. *Safeway Stores v. State Bd. Of Agriculture*, 198 Or 43 (1953).

GTE also notes that the competitive zone law was enacted after Order No. 90-920 which created this docket, and Order No. 93-852, which promulgated the Commission's Open Network Architecture (ONA) rules. GTE argues that, even if the Commission had general power to compel unbundling that predated the competitive zone law, the specific provisions of that statute control the unbundling of LEC services. Otherwise, GTE contends, the provisions of the competitive zone law would be meaningless. *1000 Friends of Oregon v. Wasco County Court*, 299 Or 344 (1985).

The Commission does not agree that our authority to order unbundling derives from the competitive zone statute or is limited to essential functions provided within competitive zones.

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[4] The pertinent sections of ORS 759.050 are as follows:

ORS 759.050(1)(c) provides: "Essential function" means a functional component of a competitive zone service necessary to the provision of the service by a telecommunications provider for which there is no adequate alternative in terms of quality, quantity, and price to the incumbent telecommunications utility.

ORS 759.050(5)(b) provides: The price and terms of service offered by a telecommunications utility for a competitive zone service within a competitive zone may differ from that outside of the zone. However, the price for a competitive zone service within the zone may not be lower than the total service long run incremental cost, for nonessential functions, of providing the service within the zone and the charges for essential functions used in providing the service, but the commission may establish rates for residential local exchange telecommunications service at any level necessary to achieve the commission's universal service objectives. Within the zone, the price of a competitive zone service, or any essential function used in providing the competitive zone service, may not be higher than those prices in effect when the competitive zone was established, unless authorized by the commission.

ORS 759.050(5)(d) provides: On the motion of a telecommunications provider or on its own motion, the commission may order a telecommunications utility to disaggregate and offer essential functions of the telecommunications utility's local exchange network.

On the contrary, we find that the authority to require the unbundling of telecommunications services into building block services is intrinsically related to our basic regulatory function. The interpretation of law advanced by the LECs is extremely narrow and would severely limit the Commission's power to regulate telecommunications services in the best interests of ratepayers and the public.

The Commission's legislative authority is set forth in a number of statutes. ORS 756.040(2) vests the Commission with "the power and jurisdiction to supervise and regulate every public utility and telecommunications utility in this state, and to do all things necessary and convenient in the exercise of such power and jurisdiction." ORS 756.062 provides that the laws administered by the Commission "shall be liberally construed with a view to the public welfare, efficient facilities, and substantial justice between customers and . . . telecommunications utilities." ORS 759.030(1) further provides that the Commission ". . . shall have authority to determine the manner and extent of regulation of telecommunications services within the State of Oregon."

More specifically, ORS 759.210 authorizes the Commission to establish:

> a comprehensive classification of service for each telecommunications utility and such classifications may take into account the quantity used, the time when used, the purpose for which used, the existence of price competition or service alternatives, the services being provided, the conditions of service and any other reasonable consideration. Based on such considerations, the commission may authorize classifications or schedules of rates applicable to individual customers or groups of customers. . . . Each telecommunications utility is required to conform its schedules of rates to such classification.

For purposes of construing our authority to classify services under the foregoing statute, ORS 756.010(8) provides that the term "service":

> is used in its broadest and most inclusive sense and includes equipment and facilities related to provide the service or the product served.

The foregoing statutes authorize the Commission to prescribe the services provided by telecommunications utilities, as well as the rates, terms and conditions under which those services are provided. We regard our decision to unbundle telecommunications services and reclassify them on a building block basis as nothing more than a straightforward exercise of our general regulatory authority to determine the manner and type of services available to Oregon customers.

Because our authority to unbundle does not derive from the competitive zone statute, our authority to unbundle is also not limited to essential functions or to the geographic scope of the competitive zones. Our authority to unbundle is part of our broad authority to determine the services LECs offer, and the manner in which those services are provided. Limiting our authority to the competitive zones would allow the LECs to configure, bundle, and offer telecommunications services in whatever manner they want outside the competitive zones, beyond the reach of regulatory authority. That interpretation is manifestly incorrect and contrary to the interest of captive ratepayers. Likewise, we agree with Staff and non-LEC parties that finding a function to be essential is relevant only for purposes of determining the appropriate price floor for LEC telecommunications services. In other words, essentiality is relevant to imputation, not unbundling. See Issue III, Imputation.

The Commission also finds that the interpretation of ORS 759.050 suggested by the LECs effectively nullifies the provisions of ORS 759.210(1). ORS 174.010 provides that, wherever possible, statutory construction should give effect to all provisions of a statutory scheme. To give effect to ORS 759.210(1), it is necessary to find that the Commission's power to order unbundling is coextensive with our general regulatory authority.

In construing a statute, one must also consider the state of the law at the time the statute was passed. *Baker v. Federal Crop Ins. Corp.*, 241 Or 609 (1965); *see also U.S. Nat. Bank of Oregon*, 106 Or App 693. The Commission observes that the competitive zone statute was enacted several months after we adopted ONA rules which mandate unbundling of telecommunications services into building blocks. In enacting subsequent legislation, the legislature's knowledge of earlier enactments is presumed. *State v. Waterhouse*, 209 Or 424 (1957). The failure of the legislature to expressly change a law on point is evidence of a legislative intention not to change it. *U.S. Nat. Bank of Oregon v. Heggemeier*, 106 Or App 693 (1991). The legislature's failure to expressly override the administrative provisions for unbundling when it enacted the competitive zone statute is evidence of its intention to keep those provisions intact.

A review of the legislative history underlying ORS 759.050 is also instructive. There is nothing in the legislative history to suggest that the legislature intended to override the Commission's ONA unbundling mandate or constrain that authority in any manner. Nor is there any indication that any interested person, including the LECs, ever suggested that the competitive zone statute would have such an effect.[5] In fact, the Minutes of the House Committee on Commerce[6] disclose that the unbundling provision in ORS 759.050(5)(d) was included at the request of MCI, apparently to expedite the unbundling process within competitive zones. It is extremely unlikely that MCI would have proposed a limitation on the Commission's unbundling authority, since MCI was the original proponent of unbundling in Oregon. Indeed, it was upon the recommendation of MCI witness Dr. Nina Cornell in docket UT 85 that the Commission initiated this proceeding and implemented the building block approach to unbundling incorporated in our ONA rules. See Order No. 90-920 at 6-9; 19-20.

The limited scope of the competitive zone statute also suggests that the legislature did not intend to circumscribe Commission authority to require unbundling of telecommunications services. Whereas ORS 759.050 was enacted to address issues relating to competition for local exchange service, the objectives of unbundling are much more far reaching. As we have explained on several occasions, the purpose of unbundling is intended not only to stimulate competition, but to redesign rates in a manner that fosters telecommunications usage, promotes efficient use of telecommunications facilities, ensures cost-based pricing, conveys accurate market signals to customers, and minimizes the likelihood of economically discriminatory rate designs. From a regulatory standpoint, these objectives are as important to the public interest and the economic well being of Oregon telecommunications customers as is the goal of fostering competition.

[5]USWC, GTE, and United were also parties to the ONA proceeding (docket AR 264) and did not challenge the Commission's authority to order unbundling at that time.

[6]Official Notice is taken of the Minutes of the House Committee on Commerce, Subcommittee on Business (HB 2203), and Exhibits A through E, May 18, 1993, and Exhibit I (legislative staff's Measure Summary), June 14, 1993.

Essential Facilities Doctrine. GTE, USWC and United contend that the Commission should apply the essential facilities doctrine of antitrust law to determine what network elements are essential functions under the competitive zone statute. The essential facilities doctrine provides that a firm cannot be required to make a facility available to a competitor unless: 1) a monopolist controls an essential facility; 2) a competitor is unable to practically or reasonably duplicate the essential facility; 3) the competitor has been denied use of the facility; and 4) it is feasible for the monopolist to provide the facility to the competitor. *MCI v. AT&T*, 708 F2d 1081 (7th Cir. 1983).

The LECs contend that there is no basis in the record to conclude that unbundling is essential to new local service providers. They maintain that a functionality may not be found to be essential merely because it would take some time for a competitor to provide the function for itself. The LECs also assert that the Commission may unbundle only those elements that cannot fairly be obtained elsewhere. If a facility can reasonably or practicably be duplicated, it is highly unlikely that it will considered essential under the essential facilities doctrine. According to the LECs, only terminating access, certain aspects of trunkside interconnection and access to telephone numbers qualify as essential facilities.

The Commission's efforts to advance the public policy goals outlined above should not be constrained by application of the essential facilities doctrine. Such an approach would limit unbundling to the minimum level necessary to avoid antitrust liability on the part of the LECs. In a marketplace dominated by carriers who, until recently, held goverment authorized monopolies, more extensive unbundling is necessary to foster competition and achieve the other goals we have established. In exercising its regulatory function, the Commission may establish standards which differ from those that apply in antitrust law.

Furthermore, application of the essential facilities doctrine is unnecessary where a comprehensive scheme of regulation governs the services and conduct of regulated firms. The essential facilities doctrine is intended to prevent firms in unregulated markets from unreasonably withholding access to facilities required for competition to develop. Although the LECs in this proceeding face emerging competition in certain markets, they remain subject to rate of return regulation. Regulation shields LECs from risks they would otherwise face in competitive markets because they are legally entitled to a reasonable opportunity to earn a fair return on all assets devoted to utility service. Since the LECs are entitled to this opportunity regardless of whether telecommunications services are offered in bundled or unbundled form, they should be indifferent to the manner in which telecommunications services are provided.

Effect of the Act. The LECs argue that the Act limits Commission authority in a number of ways. First, they argue that the Act limits the authority of State commissions to mandate unbundling. They suggest that the role of State commissions is restricted to mediating and arbitrating interconnection agreements negotiated by carriers. We disagree. Section 251(d)(3) provides that State access regulations that are consistent with the Act and do not substantially prevent implementation of the requirements of the Act shall remain enforceable. Section 261 further provides that State may enforce preexisting regulations or prescribe new regulations provided they are consistent with the Act. That section further allows a State to impose additional requirements on telecommunications carriers for intrastate services that are deemed necessary to further competition in telecommunications service, provided those requirements are consistent with the Act and any FCC regulations promulgated to implement the Act.

The LECs also argue that unbundling is a form of infrastructure sharing, a concept addressed in Section 259(b)(1) of the Act. Under that section, LECs must make available to

qualifying carriers[7] certain public switched network infrastructure, technology, information, and telecommunications facilities and functions upon request. There are a number of limitations, however. A LEC does not have to share infrastructure facilities in areas where it provides telephone exchange or access services. Infrastructure sharing may also not be compelled with direct competitors or where it is economically unreasonable. The LECs suggest that the FCC may look to the essential facilities doctrine to harmonize the unbundling and infrastructure sharing sections of the Act.

The Commission finds that the unbundling authorized in this order does not conflict with the infrastructure sharing provisions of the Act. To begin with, the infrastructure sharing provisions apply only to a limited category of qualifying carriers, not all competitive providers. To date, we have not designated any carriers in Oregon as "eligible telecommunications carriers" as provided in Section 214(e)(1) of the Act. Such a designation is required before a carrier may be considered a qualifying carrier and before the infrastructure sharing provisions apply.

We also disagree that the essential facilities doctrine applies to the Act. Section 251 of the Act requiring LECs to provide unbundled access to network elements makes no mention of essentiality or the essential facilities doctrine. Absent a clear indication of Congressional intent, we will not imply such a restriction.

Other LEC Arguments. The LECs advance several other arguments against unbundling. They argue that: (a) it is not feasible to allow competitors to share NAC facilities; (b) unbundling should be limited to "stand alone" services; (c) unbundling should be limited to those services that a competitive provider cannot provide for itself; (d) the presence of a minimally sufficient alternative should render a building block nonessential; (e) unbundling will lead to revenue erosion and threaten system integrity; (f) the level of unbundling proposed by Staff and other non-LEC parties is infeasible; and
(g) the burden of proving which functions are essential should not be assigned to LECs. These arguments are addressed elsewhere in this order.

Issue I: Unbundling and Interconnection

Staff. Staff recommends extensive unbundling of network functions to facilitate local competition, uniform pricing, nondiscriminatory access to monopoly building block components, and economic efficiency.[8] Staff recommends that the Commission require USWC, GTE, and

[7]Section 259(d) defines qualifying carrier as a telecommunications carrier that: (1) lacks economies of scale or scope, as determined in accordance with regulations prescribed by the FCC pursuant to this section; and (2) offers telephone exchange service, exchange access, and any other service that is included in universal service, to all consumers without preference throughout the service area for which such carrier has been designated as an eligible telecommunications carrier under Section 214(e).

Section 214(e)(1) provides that a qualifying carrier shall be eligible to receive universal service support and shall offer the services that are supported by federal universal service support mechanisms and advertise its services and charges. Section 214(e)(2) provides that a State commission "shall upon its own motion or upon request designate a common carrier that meets the requirements of paragraph (1) as an eligible telecommunications carrier for a service area designated by the State commission."

[8]Staff's proposed building blocks are described in the testimony of Staff witness Jon Wolf. *See* Exhibit Staff/5, Wolf/8-29.

United to offer the list of building block services discussed on pages 17-36 of this order. Staff maintains that its list of building blocks satisfies the Commission's ONA requirements and will permit customers of USWC, GTE, and United to purchase the network function or set of functions necessary to realize the benefits noted above.

Staff's proposed building blocks include network access channels (NACs), NAC connections (NACCs), switching and switching features, interoffice transport, Signaling System 7 (SS7) components, Enhanced 9-1-1 functions, operator services, billing and collection, and other ancillary services. Staff recommends that all building block services be made available for purchase separately or in combination with other network functions that customers provide themselves or buy from LECs or other telecommunications providers.

Staff's proposed building blocks include the unbundled components necessary to provide for lineside interconnection. The list also includes a subset of building block services that customers, including competitive providers, may use to interconnect their own facilities with LEC facilities through collocation or virtual collocation. Staff indicates that, while there will be an immediate demand for many of the building blocks, others may have a limited demand initially. Regardless of the predicted demand, Staff urges the Commission to adopt an aggressive unbundling approach and let alternative exchange carriers (AECs), interexchange carriers (IXCs), and other users decide which building blocks are important.

Initially, Staff recommends that the Commission require USWC, GTE, and United to offer local network services on an unbundled, building block basis only to AECs. Staff maintains that this procedure will make unbundled services available where they are needed the most, and also protect the LECs from significant revenue erosion due to substitution of building block services for bundled services. As a second step, the Commission should conduct rate proceedings for each LEC to determine if rates should be rebalanced. Staff recommends that revised LEC rates incorporate a single intrastate revenue requirement, conform to Commission pricing policies, and meet other applicable requirements. All existing use and user restrictions should also be eliminated so that all customers may purchase building blocks based on the same rates, terms and conditions.

Staff acknowledges that the LECs will incur costs to unbundle network functions. It recommends that the LECs be allowed the opportunity to recover all reasonable unbundling costs through rates charged to users of building blocks and/or the general body of ratepayers. Staff believes that the costs of unbundling are outweighed by the long run benefits described above.

Staff's proposed building blocks fall into four general categories: Network Access, Switching and Switch Functions, Transport, and Ancillary services.

Network Access is the building block category that accommodates access to other network functions provided by the LECs. Access is accomplished by transmission paths between customers and LEC serving wire centers,[9] or any other points of interconnection to the LEC network that may develop in the future. The Network Access category includes Network Access Channels, Network Access Channel Connections, Interconnection, and Network Access Optional Functions.

[9]Serving wire centers are LEC network hubs that serve as points of aggregation for network access transmission paths and as points of interface to the shared network functionality of the LEC.

Network Access Channel (NAC) Subcategory. A NAC is the transmission path between the Minimum Point of Presence at a customer location and the main distribution frame or equivalent of a LEC serving wire center (switching office), or any other point of interconnection to the LEC network that may develop. NACs represent the transmission paths established from an economic mix of facilities necessary to accomplish a customer's desired level of transmission and type of interface to the LEC's network. If offered on a stand alone basis, NACs can be used by potential competitors to create new services where the competitors provide their own terminating and switching equipment. NACs are used as inputs to create bundled services, such as local measured and local flat service. NACs can also be used by customers to provide unique applications such as dedicated private lines.

Staff lists several reasons why NACs should be unbundled. NAC unbundling will facilitate competition in local exchange telecommunications service markets by allowing competitors to use existing LEC network facilities that have been installed as part of the public switched network. Staff points out that competitors will enter markets more quickly if they do not have to petition for rights of ways, install conduit, build new facilities, or purchase unwanted features in bundled services. NAC unbundling should also benefit LECs by creating new markets and by allowing LECs to avoid losses that would otherwise result from complete bypass of the network. End user customers will also benefit from technological innovation and unique applications of NACs in the network.

Staff recommends unbundling NACs from all other network functionalities, including Switching and NACCs. Unbundling NACs from switching will allow customers to use a NAC for either switched or dedicated applications. Unbundling NACs from NACCs will allow customers freedom in selecting between various switched and dedicated applications. Furthermore, unbundling NAC facilities from NAC electronics will allow customers to uniquely configure transmission parameters.[10]

Staff proposes that the LECs be required to unbundled the following types of NACs:

BASIC NAC
ISDN NAC
DS1 AND PRIMARY ISDN NAC
DS3 NAC
JUMPER NAC 2-WIRE
JUMPER NAC 4-WIRE
JUMPER NAC FIBER
DARK FIBER NAC

For the present, Staff recommends a single statewide average NAC rate for each transmission type. Eventually, each NAC type could be deaveraged by distance and density in a manner that reflects its underlying cost structure.

Network Access Channel Connection (NACC) Subcategory. The NACC subcategory of building blocks refers primarily to various configurations of terminating

[10]Some NACs currently have unique transmission requirements that are associated with certain types of terminating electronics. Staff recommends that the LECs offer these NACs separately as long as there is appropriate cost support. Staff states that its NACC building blocks are consistent with the cost information developed in Phase I of this proceeding.

electronics. NACCs provide the interface between the Basic, DS1 and/or DS3 NAC and the appropriate LEC central office switching equipment, subsequent dedicated transport equipment (dedicated interoffice circuits) or subsequent channel equipment (dedicated intraoffice circuits). Staff recommends unbundling NACCs from both the NAC and switching. Offering NACC elements on a stand alone basis will facilitate competition in an environment where a number of potential NAC and switching providers exist. Staff also advocates unbundling interconnection elements for purposes of providing additional options for collocated customers.

Staff notes that NACCs will continue to be used by LECs in bundled service offerings. NACCs will also be used by competitors to create new services. For example, a cable company that desires to provide telecommunications to its customers may already have an extensive loop network but no telecommunications switch. In this case, the LEC would provide the switching and connectivity (NACC) functions, while the cable company would supply the NACs. In order to offer a complete service, the cable company would seek to connect to the LEC's network via a NACC switched lineside building block.

Staff proposes that the LECs be required to unbundle the following NACC building blocks:

NACC (BASIC) DS0 SWITCHED LINESIDE
NACC (BASIC) DS0 SWITCHED TRUNKSIDE
NACC (BASIC) DS0 DEDICATED
NACC DS1 SWITCHED LINESIDE
NACC DS1 SWITCHED TRUNKSIDE
NACC DS1 DEDICATED
NACC DS3 DEDICATED
NACC ISDN
NACC FRAME RELAY
NACC SMDS
NACC ISDN EXTENSION TECHNOLOGY.

The Basic NACC would be provided with standard signaling and transmission level capabilities suitable for a wide variety of network services. Basic NACCs would be unbundled in a manner which provides the customer a variety of options and applications including switched lineside or trunkside voice and data connections as well as dedicated private line and special access connections. Nonstandard connections and optional electronics are available through the addition of one of Staff's proposed optional network function building blocks discussed below.

Network Access Optional Functions Subcategory. The Optional Network Functions subcategory provides characteristics not included with the standard NAC and NACC capabilities. These functions are related to transmission or service type (analog, digital, coin, ISDN, etc.), bandwidth conversion, signaling, multiplexing, amplification, and channel performance. The basic level NACC, described above, is provided with standard signaling and transmission level capabilities suitable for a variety of network services and applications. Other nonstandard capabilities (*e.g.,* coin service, high voltage power protection) would be available through Staff's proposed optional channel performance building blocks, and could be purchased from LECs separately.

Switching and Switch Functions Category. Switching establishes a temporary transmission path between two or more NACs in the same switching office, or between a NAC and a DSX-1 facility in the switched transport termination building block. Switching includes intraoffice

switching (*i.e.,* switching between two or more NACs served from the same switching office), interoffice switching (*i.e.,* switching between NACs and either incoming or outgoing switched transport facilities connected to different switching offices), and tandem switching (*i.e.,* switching between dedicated and switched transport facilities when a tandem switch is used as the first point of interface to the switched network).

Switching, like the NAC and NACC building blocks, is one of the LECs' major network functions. Staff contends that switching should be unbundled to provide customers with the greatest number of service options and to eliminate disparate treatment. To date, switching has been primarily available only as a bundled service . The price of the switching element historically has been loaded with large subsidies and high markups for some customers, while other customers have enjoyed inexpensive usage. Unbundling switching will permit uniform pricing based on cost and will be used by all customers who desire access to the LEC's switched network.

Staff recommends that the LECs be required to unbundle the following switching building blocks:

END OFFICE SWITCHING PER MINUTE ORIGINATING
END OFFICE SWITCHING PER MINUTE TERMINATING
END OFFICE SWITCHING PER MINUTE INTRAOFFICE
TANDEM SWITCHING PER MINUTE.

Staff proposes that switching be offered on a per minute basis for end office origination, end office termination, end office switching per minute intraoffice, and tandem switching. All customers who use the switching functionalities should pay the same rates. Staff anticipates that flat rated services will be created based on combinations of these building block elements.

Switching Features Category. This category of building blocks provides for call processing beyond the simple connection of a NAC to a NAC, a NAC to outgoing transport facilities, or incoming transport facilities to a NAC. Switching features are associated with Custom Calling, Centrex, CLASS and ISDN. Examples of such features are Call Waiting, Call Forwarding, and Voice Messaging. Staff states that most, if not all, switching features are currently unbundled. Any switch features that are not unbundled, should be. All features should be considered building blocks and offered separately.

Interoffice Transport Category. From a building block perspective, interoffice transport is a very specific functionality. It represents only those facilities owned and operated by a LEC for interoffice transmissions between LEC wire centers. For unbundling purposes, Staff proposes four interoffice transport building blocks. One of the building blocks is switched (or common) transport, and three are dedicated. Switched Transport is a temporary time-sensitive interoffice transmission path between switching offices and/or serving wire centers of a LEC. Dedicated Transport is a full period, bandwidth specific (DS0, DS1, DS3) interoffice transmission path between switching offices and/or serving wire centers of a LEC.

Staff proposes four interoffice transport building blocks for unbundling purposes. It recommends separating the interoffice transport building blocks into two additional groupings -- Terminations and Facilities--for rate design purposes.[11] A Dedicated Termination is an interface

[11]"Unbundling" refers to the separate offering of network function or group of functions. Rate design, on the other hand, determines the rate for a given element but does not necessarily assume that the element will be offered separately. For

that provides for the transmission conversion (*e.g.*, multiplexing) required between channel connection and dedicated transport facilities. Both Dedicated and Switched Terminations include multiplexing equipment (D4, M13), digital cross connectors (DSX-1, DSX-3) fiber distribution panels, channel units, fiber optic terminating equipment and digital radio terminating equipment.

Dedicated Facilities are full period, bandwidth-specific (DS0, DS1, DS3) interoffice transmission paths established between two points of Dedicated Transport termination. Switched Facilities are temporary interoffice transmission paths established between two points of Switched Transport termination. Dedicated and Switched Facilities both utilize the economics of shared wide band digital fiber optic carrier systems. Cost components for both include fiber and digital radio carrier systems, repeaters and intermediate multiplexers.

Staff recommends that the LECs be required to provide the following transport building blocks[12]:

INTEROFFICE TRANSPORT TERMINATION SWITCHED
INTEROFFICE TRANSPORT TERMINATION DEDICATED DS0
INTEROFFICE TRANSPORT TERMINATION DEDICATED DS1
INTEROFFICE TRANSPORT TERMINATION DEDICATED DS3
INTEROFFICE TRANSPORT FACILITIES COMMON
INTEROFFICE TRANSPORT FACILITIES DEDICATED DS0
INTEROFFICE TRANSPORT FACILITIES DEDICATED DS1
INTEROFFICE TRANSPORT FACILITIES DEDICATED DS3

Ancillary Services Category. Staff proposes the following ancillary services building blocks:

INTERCEPT
OPERATOR ASSISTANCE
MEASUREMENT POLLING
BILLING & COLLECTIONS IAB (ACCESS)
BILLING & COLLECTIONS CRIS (MTS/LOCAL)
BILLING & COLLECTIONS CRIS (WATS/800)
BILLING & COLLECTIONS (LOOP)
CUSTOMER ID CHARGE (800)
OPERATOR SERVICE CHARGES - BASIC CALLING CARD
OPERATOR SERVICE CHARGES - STATION (INCL. CONNECT TO DA)
OPERATOR SERVICE CHARGES - PERSON
OPERATOR SERVICE CHARGES - BUSY LINE VERIFY
OPERATOR SERVICE CHARGES - BUSY LINE INTERRUPT
DIRECTORY ASSISTANCE
MAIN DIRECTORY LISTINGS

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example, Staff recommends that transport facilities and transport terminations each have a unique price. This is important so that a customer is given the proper price signals in the market and can use that information to make more knowledgeable purchasing decisions. However, Staff does not recommend that transport facilities and transport terminations each be made available separately, because these functions are integrated and represent only a single LEC's wire center to wire center transmission path.

[12]This list does not include mileage band transport building blocks. Those building blocks are set forth in Appendices B and C.

PREMIUM LISTINGS
PRIVATE LISTINGS.

Operator services building blocks provide a number of live or mechanized assistance functions to aid customers in (1) obtaining customer telephone number, street address and ZIP code information (Directory Assistance); (2) providing new telephone numbers or explanatory information to callers who dial numbers that have been changed or disconnected (Intercept); (3) providing assistance to customers in completing Operator Handled toll or local calls (Collect, Calling Card, Third Party, Station To Station, or Person To Person); (4) checking "busy" lines to make sure the line is not out of service (Busy Verification); and (5) interrupting busy lines in emergency call situations (Busy Interruption).

Measurement building blocks involve the measurement of calls at the switch and the function of assembling, collating and transmitting end office switch record call data to be processed by the Regional Accounting Office for billing.

Billing and Collection functions involve compiling information needed for customer billing, preparing the billing statement, disbursing the bill and collecting the customer payments, including any collection activity required for late payment or non-payment of accounts. The Billing and Collection building blocks include a number of cost components.

SS7 Functions. Staff also recommends unbundling Signaling System 7 (SS7) network functions. This proposal is discussed under Issue I(c) below.

Other Network Functionalities. Staff observes that the Enhanced 9-1-1 network is already unbundled and should remain that way. The 9-1-1 network currently utilizes NACs and interoffice transport. In addition, certain unique functions should also remain available. These functions include:

ENHANCED 9-1-1 CODE RECOGNITION
ENHANCED 9-1-1 AUTOMATIC NUMBER IDENTIFICATION
ENHANCED 9-1-1 AUTOMATIC LOCATION IDENTIFICATION
ENHANCED 9-1-1 ALI/SELECTIVE ROUTING
ENHANCED 9-1-1 SELECTIVE ROUTING INCOMING TRUNKS
ENHANCED 9-1-1 SELECTIVE ROUTING OUTGOING TRUNKS
ENHANCED 9-1-1 ALI NODE PORTS.

USWC. As noted above, USWC and the other LECs assert that Commission authority to order unbundling is circumscribed by ORS 759.050, and extends only to essential functions offered within designated competitive zones. USWC's interpretation of "essential function" excludes all network components that a competitor provides for itself. Based on this reasoning, USWC contends that the only essential functions that may be unbundled by the Commission are terminating access, access to telephone numbers and certain aspects of trunkside interconnection. USWC claims there is insufficient evidence in the record to demonstrate that any other network functions are essential.

In addition to its arguments regarding essentiality, USWC argues that (a) the unbundling proposals advanced by Staff and other non-LEC parties improperly disaggregate telecommunications services into network *components*, as opposed to network *functions*; (b) unbundling should be limited to functions for which there is a proven customer demand, and (c) that unbundling should not compromise network integrity or security.

Although USWC claims that most of the building blocks identified by Staff and intervenors are not essential, it proposes to make several of the building blocks proposed by Staff available in tariffed services.[13] USWC does not, however, agree to unbundle all of Staff's proposed building blocks into services that may be purchased separately.[14] USWC's proposals are as follows:

Local Transport Restructure. USWC's local transport restructure (LTR) represents the company's effort to restructure transport charges to align with transport building blocks and to offer trunkside interconnection. The proposal mirrors changes that have occurred in the interstate jurisdiction. The transport charges in the LTR fall into four categories:

(a) Direct Trunked Transport provides a carrier with a dedicated link between the end office serving the end user and the wire center that serves the carrier's point of presence. It is available at voice grade, DS1 and DS3 levels. Direct Trunked Transport has two rate elements, a fixed monthly charge corresponding to the dedicated interoffice transport termination, and a variable charge per mile per month corresponding to the interoffice transport facilities dedicated. USWC's proposed rates are the same as those for comparable private line services.

(b) Tandem Switched Transport includes the tandem switching function, plus common transport between the serving wire center and the tandem or end office, transport between the tandem and subtending end offices, and transport between all remote end offices and their host offices. The customer can choose Tandem Switched Transport as an alternative to a dedicated direct trunked transport link to a given end office. Tandem Switched Transport has three rate elements, all charged on a per minute of use basis.[15]

(c) Entrance Facilities consist of a NAC plus channel performance, and link the customer's point of presence with the customer's serving wire center. Entrance facilities are available at voice grade, DS1, or DS3 levels at flat monthly rates. USWC proposes entrance facility rates equal to the rates for comparable private line services (*i.e.,* channel termination and channel performance.)

(d) Multiplexers are available for voice grade and DS1-DS3 connections. USWC proposes flat monthly rates equal to private line rates for multiplexers.

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[13]Appendix B compares the building blocks proposed by Staff with those proposed by USWC, GTE and United.

[14]For example, USWC does not propose to unbundle the lineside local switch connection from the NAC which runs between the switch and a customer's premises. Thus, a competitor could not self-provision the NAC and purchase a lineside channel connection (lineside NACC) from USWC. Also, the Expanded Interconnection Channel Termination service offered by USWC (and described below) consists of several of the building blocks identified by Staff, none of which may be purchased separately. In addition, USWC states that certain services cannot be separately provided for technical reasons. Custom calling features such as call waiting, for example, must be purchased with USWC local switching, since USWC cannot technically provide call waiting on local service provided from a competitor's switch. On the other hand, because USWC can provide switching with or without call waiting, both switching and call waiting are tariffed separately.

[15]Customers choosing tandem switched transport have a choice between paying usage sensitive rates for all transport between the serving wire center and the end office or paying a combination of usage-sensitive rates for the transport between the end office and the tandem plus direct trunked transport rates for the transport between the tandem and the serving wire center

Switched Access Expanded Interconnection. USWC's trunkside interconnection proposal--Switched Access Expanded Interconnection--is available to carriers that virtually collocate at the serving wire center, tandem switch, or end office switch. Customers subscribing to this service pay a monthly rate for Expanded Interconnection Channel Termination (EICT). The EICT has been tariffed in the interstate jurisdiction. Because the interstate and intrastate services of interexchange carriers are inextricably linked, USWC recommends that the EICT also be approved in Oregon.

USWC states that its proposed switched access rate elements correspond to the interoffice transport and NAC building blocks identified by the Staff with two exceptions, local switching and voice grade entrance facilities. USWC also states that the intercept, operator assistance, measurement polling and billing and collection functions should continue to be bundled with local switching. It argues that these functions are necessary to assist customers in the event a call is not completed, to generate and collect data on switch usage, to generate bills and to collect for service provided. USWC's voice grade entrance facility is a four-wire NAC that is bundled with channel performance parameters appropriate for switched access service. USWC claims that channel performance is necessary for the entrance facility to function and should not be unbundled.

LIS-Link. USWC proposes to introduce an unbundled NAC product called LIS-Link (Local Interconnection Services Link). LIS-Link is a transmission path between the main distribution frame located in USWC's serving office and the point of termination at the appropriate interface located on the premises of an AEC. LIS-Link is available only as a two wire point-to-point configuration suitable for local exchange service and will be provided to AECs without use or user restrictions. USWC proposes to charge a Subscriber Line Charge (SLC)[16] and a flat rated Carrier Common Line Charge (CCLC) on the LIS-Link. USWC states that the interstate SLC and CCLC are a critical part of its revenues and must be recovered from the AECs. USWC has filed a waiver with the FCC seeking permission to recover these charges.

GTE. GTE argues that unbundling should involve a minimum of regulatory intervention. The Commission should only establish general unbundling guidelines to encourage competition. Because unbundling raises the same public policy, economic and business issues as the introduction of new services, LECs should be permitted to determine the appropriate level of unbundling dictated by the marketplace. GTE maintains that LECs should not be compelled to unbundle simply because competitors find it more efficient to rely on LEC facilities.

GTE proposes three unbundled loop and three unbundled port services. It opposes feeder/distribution unbundling and does not propose any new services with regard to signaling ports and links. It recommends LTR for trunkside interconnection and tandem switching. GTE states that most of the building blocks recommended by Staff are currently offered on an unbundled basis. It asserts that nearly all building blocks will be available if its LTR and unbundled loop and port proposals are adopted.

[16]The SLC is an interstate rate element charged to all end users who subscribe to switched local exchange telephone service. It is designed to recover part of the allocated interstate cost of subscriber lines. The remainder of the cost is charged to interexchange carriers via the interstate Common Carrier Line Charge (CCLC). The CCLC is a per minute rate assessed on all interexchange carriers that use local switching and subscriber lines to originate and terminate interstate interexchange traffic.

GTE's unbundled loop proposals include (a) an analog two-wire basic loop (or special access line); (b) an analog four-wire loop; and (c) a digital two-wire loop. At present, GTE's two-wire special access line is primarily used for point-to-point services and to facilitate foreign exchange service. As an unbundled service, it could be used to provide basic exchange service for single line, multiline, private branch exchange (PBX), and public access line (PAL) service. GTE proposes to treat unbundled loops as dedicated lines to avoid application of the interstate SLC and CCLC. Bundled switched local exchange loops, however will continue to include the SLC and CCLC.

GTE's proposed port services would provide dial tone and a telephone number to enable customers to make and receive calls. An unbundled GTE port would also provide service-enabling features and functions, such as translations, switching, announcements, supervision, and touch tone capability. It could also provide access to GTE-provided operator services, usage-based services, switch features and presubscribed interexchange carriers.

The four port services recommended by GTE include Basic Exchange/PBX, PAL, PBX Ground Start, and customer owned pay telephone (COPT) ports. The Basic Exchange/PBX port is a two-wire analog port providing basic network access, including touch tone capability and other features. It is compatible with single line, multiline, and PBX systems that require loop start signaling. The PAL port is similar to the Basic Exchange/PBX port, but is intended for use with "smart" payphones that have internal routing and rating functions. It has available PAL service options for specialized line translations which restrict certain call types and is subject to certain conditions. A COPT port may be used with either public or semipublic telephone service and is intended for "dumb" payphone sets that lack any call processing or programming. It includes line translations that restrict certain call types and provides central office functions that enable coin collection and control features. The PBX Ground Start port provides ground start signaling in addition to the features described for Basic Exchange/PBX ports.

GTE observes that its network provisioning and administrative systems were not designed for managing an unbundled network. It anticipates that orders for unbundled loops and ports will have to be processed manually, adding substantially to the cost and time necessary to provide those services. GTE has formed a task force to investigate process changes in several areas, including meet point coordination, end-to-end testing, service quality measurement, handling customer complaints, technician and dispatch services, responsibility for trouble isolation, and installation services. GTE also anticipates that unbundling will impact departments and processes relating to planning, engineering, forecasting, capital provisioning, construction, maintenance, repair, and service center assignment.

GTE also argues that unbundling creates significant risk for the company because of uncertainties regarding the demand for unbundled elements and the evolution of the telecommunications market. It suggests that high initial demand for unbundled elements may cause GTE to invest large sums to develop and modify systems, create new procedures, train employees and invest in new facilities. GTE fears it may be left with stranded investment if changes in technology and market conditions subsequently cause demand for unbundled elements to decline.

United. United encourages the Commission to authorize only that level of unbundling necessary to allow competitors to enter the market without undue constraints. It contends that the benefits of unbundling are unproved and theoretical. United claims that there has been no showing that the level of unbundling proposed by Staff or AECs (a) is technically feasible; (b)

does not jeopardize network reliability; (c) provides benefits that exceed the costs; (d) satisfies an existing demand, and (e) is necessary for other telecommunications providers to compete.

United proposes to implement unbundling in two phases. The phased approach is designed to moderate customer rate impacts in United's predominantly rural service territory. In Phase I, United would unbundle loop facilities, implement the interstate LTR, and unbundle the special access NAC from channel performance. United proposes to unbundle the following loop facilities: a basic two-wire NAC, a four-wire NAC, a DS1 NAC and, possibly, a DS3 NAC. United's LTR provides customers with the same switched access transport and trunkside interconnection options included in the USWC and GTE proposals. That is, customers may purchase tandem switched transport, which routes calls through a LEC tandem, or direct trunked transport, which routes calls directly to the end office. Customers also have the option of interconnecting at the tandem and self-provisioning transport facilities rather than purchasing them from the LEC.

Phase II of United's proposal would make lineside port service available for purchase. United proposes to defer implementation of Phase II until the first quarter of 1997 because it has no indication that there will be a demand for lineside interconnection at any time in the near future. It also prefers not to offer lineside interconnection until it has a better understanding of how it will be used and the technical specifications for the service.

As noted above, United falls within the rural exemption in Section 252(f) of the Act. The Act provides that a carrier must make a bona fide request of United to unbundle telecommunications services or provide network elements. The Commission must review the request, and may terminate United's exemption only if it finds that the request is not economically burdensome, technically infeasible, or inconsistent with universal service requirements.

United acknowledges that Act--specifically, the elimination of resale restrictions, and the potential for wholesale discounts--may accelerate competition in United's rural service territory. United states that it should be free to unbundle services prior to a bona fide request if it perceives that market opportunities exist. It is prepared to honor bona fide requests for the unbundled elements it has proposed as well as those contemplated by the Act.

Appendix B compares the building blocks proposed by Staff with those proposed by USWC, GTE and United.

AT&T Wireless recommends that the Commission adopt the level of unbundling proposed by Staff. The building blocks recommended by Staff will allow wireless carriers to simulate existing methods of interconnecting with the landline telephone network and will permit new methods to develop. Unbundled interconnection arrangements will also benefit PCS providers, and will encourage both wireless and wireline carriers to keep pace with competition by reconfiguring their networks and interconnection arrangements. Wireless carriers should be able to purchase unbundled network functions at the same, prices, terms and conditions as wireline competitors.

OCTA argues that competition and technology are changing the telecommunications marketplace in ways that are difficult to predict. In order to provide competitors the opportunity to establish economically and technically efficient system design, the Commission should adopt unbundling and interconnection policies that acknowledge the dynamic forces of competition and the need for flexibility.

OCTA agrees with Staff that basic service elements (BSEs) that have already been unbundled pursuant to the Commission's ONA rules should remain unbundled. In addition, the Commission should require greater NAC unbundling than that included in USWC's LIS-Link proposal. OCTA argues that a two-wire analog NAC will preclude competitors from offering more advanced telecommunications services such as ISDN and frame-relay services that require four-wire facilities.

ELI maintains that unbundling is important because it allows (a) competitive providers to purchase only those network functions that are necessary and cannot be self-provisioned economically; (b) new points of interconnection to be established, creating less reliance on the incumbent LEC's network and providing the opportunity for competitive providers to expand their networks more efficiently; (c) the Commission to better analyze cost studies and pricing proposals of the incumbent LECs, and (d) new entrants to expand their geographical reach and serve customers that would not otherwise have a choice of local exchange providers.

ELI recommends unbundling LEC services into 87 building blocks. It argues that this is the minimum inventory of building blocks that must be provided to permit facilities-based local competition. ELI urges the Commission to adopt the more extensive level of unbundling proposed by Staff, noting that it will promote more efficient use of telecommunications facilities and prevent discriminatory pricing of services using the same functionality.[17]

ELI also proposes that testing access, *i.e.*, the cost of equipment necessary to provide access to NACs for testing purposes, should be tariffed as a separate building block rather than bundling it in the NAC rate. ELI asserts that AECs should have the opportunity to test NACs themselves, rather than rely on the LECs for this service.

ELI argues that the limited level of unbundling proposed by the LECs will inhibit the development of local exchange competition because key network components needed by potential competitors would not be unbundled. Like OCTA, ELI argues that USWC's proposal to restrict NAC unbundling to two-wire analog service will impede the offering of advanced telecommunications services that require four-wire facilities. It urges the Commission to require the LECs to offer different types of NACs, including two wire and four wire digital NACs capable of providing ISDN, DDS, DS1 and DS3 services. ELI also agrees with Staff that USWC's EICT service should be unbundled into its component building blocks,[18] each of which should be separately tariffed in accordance with building block costs developed in Phase I of this docket.

ELI argues that extensive unbundling will foster the development of effective competition and provide customers with lower prices, accelerated innovation and improved service quality. Any costs associated with unbundling will be small compared with these benefits. In addition, the potential for LEC revenue erosion can be minimized by making

[17]According to ELI witness Robert McMillin, the main difference between Staff's list of building blocks and ELI's proposal is that Staff includes switch features (such as call waiting) and certain ancillary services. ELI did not include these building blocks because it intends to provide these functions with its own switching equipment. Non-facility based resellers may be interested in purchasing unbundled switch features, however. In addition, Mr. McMillin stated that the Commission should require unbundling of two ancillary services identified by Staff but not included on ELI's original list--Busy Line Verify and Busy Line Interrupt.

[18]According to USWC witness Karen Baird, the building blocks associated with the EICT include jumper NACs, distributing frame termination, cross-connects, multiplexing and, possibly, regenerators.

interconnection building blocks available initially only to certificated AECs. The availability of building blocks to other end users could be assessed after the Commission considers the need for LEC retail rate rebalancing.

ELI disagrees with LEC claims that extensive network unbundling will result in network failures and diminish the integrity of the local exchange network. ELI observes that these arguments mirror those raised by the LECs when competition was contemplated in the interexchange and customer premises equipment markets.

MCI claims that unbundling benefits consumers in several ways. At the most basic level, it permits competitive entry and gives consumers a choice of telecommunications providers. Unbundling also encourages providers to compete on quality, service and price. It stimulates the creation of new products by allowing new entrants to combine unbundled functions with other services, to create new services or to enhance existing services. Without unbundled loops, for example, an entrant can serve only customers on or very near its SONET ring, thus depriving the benefits of competition to consumers who are not located close to the ring. Access to unbundled loops allows an entrant to serve all consumers interested in obtaining telecommunications services from a alternative provider.

MCI recommends that the Commission require the incumbent LECs to unbundle the list of 34 functions which it claims are necessary to permit competition to develop. Based on the evidence produced at hearing, MCI recommends two additional building blocks--Concentration for Transport and Four Wire Channel Out of a D4 Channel Bank (Four Wire Channel) -- are essential for competitors to provide service.[19]

MCI opposes the unbundling proposals offered by the LECs. It claims that USWC's LIS-Link proposal is a bundled offering that is inadequate for digital services such as ISDN. Competitors who need four wire NACs must purchase from USWC's private line tariff. MCI states that private line services are end-to-end bundled services which include channel performance, testing, and monitoring functions that can be self provisioned by a competitor. Likewise, MCI observes that GTE's proposed lineside ports are not ISDN compatible. Additional concerns raised by MCI with respect to the LEC unbundling proposals are addressed below.

AT&T urges the Commission to order the LECs to unbundle their networks into the building blocks identified by Staff. It argues that extensive unbundling is essential for interconnection because competitors rely on a variety of network functions as inputs to provide service. AECs will have limited facilities in place when they enter the telecommunications market. Unbundling removes a barrier to entry by enabling the entrant to supply certain building blocks and rely on the LECs for other network components. Competitive entry is fostered by reducing the initial capital requirements that new providers encounter.

AT&T joins ELI and MCI in recommending unbundling of (a) feeder and distribution associated with the NAC; (b) USWC's proposed EICT; (c) intrapremises cable and wire facilities, and: (d) ISDN user part (ISUP) and Transactions Capability Application Part (TCAP). These issues are addressed below.

[19]Concentration is multiplexing technology that permits carriers to use longer loops more efficiently by using fewer pairs to carry more traffic. This is advantageous to collocated AECs because a large portion of their loop plant is considerably longer and more costly than that of the incumbent LEC. The Four Wire Channel building block is a component of a four wire digital NAC.

Issue I(a): Lineside Interconnection.

Lineside interconnection refers to a customer's ability to receive dial-tone services through a physical connection to a LEC's end-office switch without being required to purchase any outside plant facilities (*i.e.*, NACs) from the LEC. Lineside connections use line cards that are designed to provide a customer with access to switching functions, dial tone, and a seven-digit telephone number. Lineside connections are necessary for customers who desire to provide their own NACs but not switching. See *e.g.*, Order No. 94-1851 at 8.

Trunkside interconnection, on the other hand, is a connection to a LEC switch that does not include dial tone. Trunkside connections are necessary for customers who have both switching and NAC capabilities but desire to interconnect to the existing LEC network. Trunkside connections use trunk cards which rely on a secondary switch to provide the first point of switching, station numbers and features. According to Staff witness Jon Wolf, there is little difference between lineside and trunkside connections. The costs are nearly identical, and both utilize the same interconnecting elements. The primary difference is in the termination card and the functionality served by each.

Staff, **ELI**, **MCI**, **AT&T**, **OCTA**, and **AT&T Wireless** all support unbundling of lineside interconnection. These parties emphasize that lineside connections are necessary for competitive providers who do not have a switch to provide local exchange service. For example, a lineside port would allow a competitor to attach its NACs to a LEC central office switch to create a local exchange access service.

GTE and **United** also agree that lineside ports should be provided on an unbundled basis. As noted above, however, United does not propose to make lineside interconnection available until 1997 because of lack of demand for unbundled ports. GTE acknowledges that its proposed lineside ports are not ISDN compatible. It also states that physical provisioning of lineside connections may cause network operation problems. For example, potential feature activation problems (*e.g.,* inability to use CLASS services) may result if a customer elects to purchase a block of lineside connections from GTE and then resells those connections to customers with a mix of services.

USWC does not propose to offer lineside interconnection. It argues that competitive local exchange carriers can and will provide their own central office switching and do not require direct connection of their NACs to USWC switches. USWC maintains that central office switches identical to those used by USWC are widely available and are used by many AECs. It contends that unbundled lineside ports are not required for the development of effective competition. According to USWC, the primary interface required by AECs is trunkside interconnection, which will allow access to the public switched network in the same manner that independent LECs currently interconnect with USWC's network.

Issue I(b): Feeder Distribution Outside Plant Unbundling.

"Feeder" refers to the outside plant closest to a LEC central office. It is the primary distribution plant (*i.e.*, large cables) between the LEC's wire center or central office and a cross-connect in its local distribution network. "Distribution" refers to the outside plant closest to a LEC customer location. The distribution component is the portion of the outside plant between the cross-connect and the actual customer drop or service connection wire.

Staff does not recommend unbundling of the NAC into feeder and distribution components at this time because it is difficult to clearly identify where feeder ends and distribution begins in existing LEC networks. However, Staff notes that interconnection may still take place at locations other than a LEC's central office. For example, a customer could request the placement of a virtually collocated piece of equipment at a LEC's controlled environment vault and then purchase a DS1 or DS3 circuit from that point to the LEC's central office. This arrangement would essentially replicate the unbundling of feeder from a customer's own distribution system. Also, an effective separation of feeder and distribution may occur when a customer aggregates it own distribution systems and then connects to a LEC via a DS1 or DS3 circuit between the customer's premise and the LEC's serving wire center.

GTE, **United** and **USWC** oppose feeder/distribution unbundling for various reasons, including concerns about feasibility, interconnection and network inefficiencies, space limitations, network integrity and security.

GTE asserts that modern telecommunications networks have become more "distributed" in nature. Instead of large copper cables radiating from LEC central offices, modern network configurations join distributed switching and digital pair gain centers with fiber optic links, resulting in more node locations and shorter average customer loops. Although this is beneficial from a customer service standpoint, it creates problems for unbundling because of the additional costs to provide service.

GTE witness Terry Falls explained how GTE provisions local loops. Universal Digital Loop Carrier (UDLC) devices use an analog interface to the LEC central office. These devices are more flexible because they may be used with any central office, but are more costly because each line requires two interface circuits at the central office. Although UDLCs have significant capacity, some special services (*i.e.,* caller number identification, PBX trunks) will not work on this device. According to Mr. Falls, it is generally not a problem to provide unbundled NACs to customers served by UDLC sites or pure copper facilities.

Alternatively, end user customers may be served through remote switching devices (RSDs), or integrated digital loop carrier (IDLC) devices which are connected to the central office through fiber optics and digital trunking. The RSD is capable of providing approximately 300 special circuits per site. IDLCs, on the other hand, can provide a total of 24 special circuits. Both IDLC and UDLC pair gain devices are located in cabinets with limited power and space capability.

According to GTE, a limited number of unbundled NACs could be provided from RSD sites, but it would erode GTE's ability to service special circuits for its customers. For economic reasons, GTE is unwilling to provide feeder facilities from its central offices to IDLC sites, or to provide distribution interfaces from IDCL sites. As a consequence, GTE estimates that loop unbundling will be limited or unavailable for approximately 27 percent of its Oregon access lines, or 106,000 customers.

GTE also argues that the integrity of the telecommunications network will be placed in jeopardy if other firms are given access to GTE's cross connect locations in order to connect and disconnect facilities. Typically, cross connects are housed in locked metal cabinets located throughout an exchange, and only GTE employees are now authorized to access them. Aside from the potential for physical damage to the network, GTE contends that it will be difficult, if not impossible, to maintain updated records of work performed by non-LEC personnel. GTE also

asserts that third party access to cross connect locations may interfere with GTE's Express Dialtone process and create other security problems.

United also maintains that it is not feasible to disaggregate NACs into feeder and distribution elements. First, United claims that there is no such thing as a standard or normal loop because some loops have no distribution component, while others have no feeder component. Consequently, it is not possible to distinguish outside plant facilities in this manner. Second, United argues that unbundling the loop into feeder and distribution will compromise network efficiencies and increase costs by interfering with integrated functions designed to minimize service activation and repair problems. Third, NAC disaggregation requires additional interconnection sites, equipment and technicians. It also prevents United from remote testing in the event repairs are necessary.

USWC also opposes feeder distribution unbundling. It argues that interconnection within cable vaults, manhole, digital loop carriers and other outside plant facilities is not an effective or efficient means of providing network interconnection, and is unnecessary for competition to develop. This level of unbundling also raises issues regarding space limitations in cable vaults and manholes; additional costs for electronics and termination equipment; disruptions in service, and administrative problems. USWC suggests that feeder distribution unbundling, together with the elimination of use and user restrictions would enable end users throughout Oregon to use portions of USWC's feeder and distribution network.

USWC also opines that feeder distribution unbundling will severely jeopardize network integrity. Like GTE and United, USWC asserts that the combination of loop facilities with several interconnection points, different providers, and different technicians will compromise network security and reduce service quality.

ELI, MCI and **AT&T** advocate unbundling of the NAC into feeder and distribution components. ELI witness Robert McMillin explains that, because the NAC is seldom one continuous cable pair, logical points of interconnection exist where different network facilities are interconnected. For the NAC, the most logical point of interconnection is the point where distribution plant interconnects to feeder facilities.

ELI notes that there are instances where it is inefficient for a LEC to provide an unbundled NAC to an AEC collocated in the LEC's central office. This occurs when the LEC has utilized IDLC or RSD facilities which allow incoming calls to the LEC switch to bypass the LEC's main distribution frame. Unless there are special access circuits available to bypass the IDLC or the RSD, an AEC cannot reach customers served by the those facilities, because it cannot connect to the central office.[20] ELI claims that a more efficient and cost effective means of interconnection under these conditions is to allow the AEC to interconnect on the distribution (customer) side of the IDLC or RSD. According to ELI, this type of interconnection is similar to the type of collocation that occurs at a LEC's central office.

[20] Where trunk concentration is not provided by an IDLC or RSD, traffic is routed through the LEC's MDF. Traffic may be passed from the MDF to an AEC's collocated equipment simply by using a jumper NAC. Traffic going through an IDLC or RSD, however, goes straight to the LEC switch, bypassing the MDF. GTE witness Terry Falls agreed that an AEC cannot pick up traffic that travels through an IDLC unless special circuits are provided at additional expense.

ELI also recommends unbundling of riser cable facilities in buildings where a LEC assumes responsibility for those facilities. In order to obtain access to cable facilities controlled by USWC, an AEC must purchase two and four-wire channel terminations from USWC's private line tariff. The total cost for an AEC for use of the two-wire cable pair is $3.80 monthly plus a $100.00 nonrecurring charge. ELI argues that these charges drive up the cost for AECs to serve customers. It proposes that the Commission require LECs to develop cost studies for riser cable facilities within 60 days of a final order in this proceeding. ELI further recommends that the LECs offer riser cable on an unbundled basis priced at TSLRIC. AT&T and MCI concur with ELI's proposal.

MCI also argues that there are clear demarcation points within the NAC where interconnection can occur. LECs should be ordered to unbundle the NAC so that customers can select among providers for part of the NAC, thereby allowing competition to bring down the cost of the NAC. This is particularly important because the NAC is the most costly building block. Actions that lower even a portion of the NAC cost can translate into significant cost reductions for residential and business customers.

Where trunk concentration is provided through an IDLC, MCI states that AECs must be allowed to crossconnect on the customer side of the IDLC. If AECs are forced to purchase special circuits to get NACs from the customer side of the IDLC to the host central office, they will be not be able to effectively compete for customers served by LEC IDLCs. Similarly, where a LEC provides service using an RSD, and connection through the RSD's MDF is feasible, AECs should be permitted to collocate at that location.[21] Where collocation at the RSD is not feasible, interconnection at the RSD should be treated in the same manner as interconnection at an IDLC.

MCI contends that the security concerns raised by the LECs regarding feeder distribution unbundling are unwarranted. Currently, when two LECs exchange traffic and agree to meet points, the meet point is controlled by one of the participating LECs. It is simply a matter of protocol to determine access to the splice box or whatever equipment constitutes the meet point. MCI suggests that the same procedures should apply to feeder distribution unbundling. Protocols should be established to govern access to AEC/LEC meet points.

MCI recommends that the Commission require feeder distribution unbundling in separate stages. The first stage would require the LECs to provide sufficient unbundling of feeder and distribution to permit AECs to obtain access to all IDLC and RSDs within 90 days of the date the Commission order is issued in this docket. Within 120 days, the LECs would be required to implement feeder distribution unbundling at cross connects in all LEC cable vaults. Finally, within 180 days of the order, LECs would be required to submit detailed plans for unbundling of any remaining feeder and distribution. The LECs would also be required to identify any location where feeder distribution unbundling is not considered feasible, together with a proposal for resolving those problems.

Issue I(c): Signaling Ports and Links

[21]GTE witness Falls testified that feeder distribution unbundling might not be required at RSD sites if collocation were available at the RSD. Mr. Falls did not know whether GTE currently offers physical or virtual collocation at GTE RSDs. Both OAR 860-35-020(27) and Order No. 96-079 require that virtual collocation be provided at remote network facilities.

The Common Channel Signaling Network (CCSN) is a digital data network carrying signaling information that interfaces with the voice/data network. The network protocol used is Signaling System 7 (SS7), a form of out-of-band signaling. In the SS7 environment, a dedicated path is used to carry signaling information for a number of voice/data trunks. All of the signaling information associated with the placement of a call is sent over high speed links instead of over the trunk paths themselves. The information processed includes supervisory, addressing, and routing data for call setup and clearing.

Within the SS7 network, a variety of aggregated connection points are established to take advantage of scale economies. These connection points have two basic functions. Signal transfer points (STPs) act as call processors that concentrate signaling for a large number of trunks. Signal control points (SCPs), on the other hand, provide data base information used in the processing of the call. Various links are also used to connect the SS7 network together. SS7-equipped end office switches are dubbed service switching points and are connected to STPs through the use of Access Links. STPs are connected to other STPs or to SCPs through the use of Bridge Links.

Staff recommends that SS7 be aggressively unbundled to provide customers with new service options and to avoid duplication of services where customers have provided their own signaling systems. Staff witness Wolf emphasizes that it is important to unbundle the SS7 system because it offers numerous advantages over in-band systems. Signaling processing is much faster and the associated voice/data trunk in the network can be used more efficiently. A large number of services rely on the SS7 network, including CLASS services, enhanced 800 data base services, and ISDN call setup and control. SS7 also allows advanced intelligent network applications (AIN) including virtual networking, centralized call accounting and advanced network management.

Although Staff acknowledges that SS7 is an integrated system within the LEC network, it contends that SS7 unbundling is necessary in a multiprovider environment. Staff's proposal assumes that the physical aspects of the network will be unbundled into various functional components that will be offered separately. These include STPs, SCPs, Access Links, and Bridge Links. Also, regardless of the components purchased by a customer, Staff recommends that the messages and protocols which comprise the SS7 signal--the ISUP and the TCAP[22]--be delivered intact and without interference, in a manner consistent with the way a LEC processes these messages between its own switches. Staff's SS7 building blocks are as follows:

SS7 SSP (including ISUP and TCAP messages)[23]
SS7 STP
SS7 SCP
SS7 Access Links
SS7 Bridge Links

[22]The ISUP message determines the procedures for setting up, coordinating, and taking down trunk calls on the SS7 network. TCAP provides the signaling function for network databases.

[23]Staff states that the SSP, STP, and SCP may each be characterized as ports which allow for access to the functionalities and signal processing capabilities of each site. Costs still need to be developed for these building blocks before they may be offered separately.

USWC states that its CCSN tariff already provides direct access to its STPs, as well as links to connect AECs or IXCs. Customers transporting information between their Signaling Point of Interface and a USWC STP would use Common Channel Signaling Access Capability. That capability consists of three network components:

> (1) STP access connection-- a connection between a customer's Signaling Point of Interface and the USWC STP serving wire center. Two interconnection options are available: Option A provides a DS1 dedicated facility from the Signaling Point of Interface to the STP serving wire center. The remainder of the connection is also a DS1 facility. Option B provides the same DS1 connection from the Signaling Point of Interface to the STP serving wire center, but the remainder of the connection may be either a DS0 or DS1 connection.
>
> (2) STP Link-- a digital signaling transmission channel between adjacent nodes in the CCS network, such as the SP and the STP.
>
> (3) STP Port--the point where the switching capability of the STP takes place. The STP port is dedicated to the customer.

USWC's current tariff specifies that for every port, a link must be purchased. Also, the STP access connection is priced on a bundled transport basis, assuming the need for entrance facilities a collocated customer may not require. USWC proposes to restructure the transport for the STP access connection in a manner consistent with its proposed Local Transport Restructure. This price restructure will provide options for transport flexibility and allow greater network efficiency, such as allowing a DS1 carrying a common channel signaling link to be placed on a DS3 facility that also carries voice circuits. For example, approval of USWC's EICT will mean that a collocated customer will not be required to purchase entrance facilities.

Although USWC proposes to maintain a separate price element for the STP port, it does not agree to physical unbundling of the port from the STP link. It argues that certain standards and reliability issues need to be resolved before physical unbundling should take place, and recommends that customers seeking this type of unbundling use the ONA request process set forth in OAR 860-35-070.

USWC claims that it cannot unbundle the STP port to allow customers to connect at the SCP and self provision transport from the STP to the SCP. Under the current network configuration, two critical network functions--Global Title Translation and Gateway Screening--occur only at the STP. Global Title Translation controls the data base services available to a customer from a SCP. USWC asserts that, if a customer bypassed the STP, USWC could not control the databases the customer could access or ensure that the proper rates were paid. Gateway Screening prevents the unauthorized use of USWC network message transport facilities and unauthorized actions that may be initiated by a customer's interconnected network. It also preserves CCSN network resources by preventing the network from processing excess traffic capacity and prevents unauthorized access to confidential and proprietary data in USWC databases USWC claims that, if it is required to provide direct access to the SCP, it will be necessary to incorporate all gateway screening functions into its SCPs. USWC maintains that this process would be expensive and could impair the stability of the SS7 network.

United also opposes the level of unbundling proposed by Staff and other non-LEC parties. To ensure that network integrity is not compromised, the only potential point of interconnection is at the STP. Because United contracts with another LEC to provide STPs, it

claims that the contract provider should be responsible for any unbundling or signaling interconnection arrangements.

GTE did not provide the specifics of its proposal for unbundling of signaling ports and links, but does not foresee any problem in the provisioning of SS7-related interconnection in an unbundled environment. It states that SS7 port termination on an STP is currently available from many providers.

ELI and **MCI** agree with Staff that incumbent LECs should be required to provide signaling interfaces at the same points they use when transmitting signaling information among their own network components. Specifically, ELI states that the STP port should be unbundled from the link. This will allow AECs to purchase STP ports from the LEC, and supply their own links.

Issue I(d): Trunkside Interconnection and Transport

USWC, GTE, and **United** all recommend LTR as the means to unbundle trunkside interconnection and transport. The LTR proposals are described above.

As noted, **Staff, ELI, AT&T** and **MCI** all recommend a greater level of unbundling. These parties argue that USWC's proposed EICT consists of a number of discrete building blocks that should be unbundled and tariffed separately. ELI states that the EICT represents a substantial cost to providers purchasing unbundled NACs and includes functionalities that competitors can provide themselves. ELI notes that USWC has already developed cost estimates for each of the building blocks that comprise the EICT.

Issue I(e): Tandem Switching

USWC, **GTE** and **United** propose to charge separate prices for tandem switching and local transport in their LTR proposals.[24] Under LTR, customers pay for tandem switching only if they use that function.

ELI and **MCI** argue that LTR is not true unbundling because tandem switching remains bundled with tandem switched transport. In other words, carriers purchasing tandem switching must also purchase tandem switched transport from the LEC. While these functions have different prices under LTR, they cannot be purchased separately. ELI argues that LTR should be considered a minimum level of unbundling.

Commission Findings and Decision: Issue I, Unbundling and Interconnection

Based on the evidence and arguments presented, the Commission finds that the public interest requires USWC and GTE to unbundle their telecommunications services at the level recommended by Staff.[25] We also find that USWC and GTE should provide the additional building blocks discussed on pages 45-46 of this order. As noted, United is subject to the rural

[24] The LTR filing made by USWC enables a competitive provider to choose signaling options that will allow it to use its own tandem switches. United's LTR does not make this option available.

[25]For purposes of this order, the Commission considers the switched and dedicated terminations and facilities of interoffice transport identified by Staff witness Wolf as separate building blocks rather than simply rate elements.

exemption in Section 251(f) of the Act, and is not required to comply with the unbundling requirements in this order.

As we emphasized in Order No. 90-920, unbundling is a necessary part of a regulatory structure designed to respond to an increasingly competitive telecommunications environment. Unbundling at the level recommended by Staff will stimulate the development of effective competition and result in customer benefits that include lower prices, greater choice, better service quality and accelerated innovation. It will also promote other important public policy objectives, including cost-based pricing, non-discriminatory availability of building blocks, correct price signals and efficient use of telecommunications facilities.

In reaching this decision, we emphasize that unbundling is not designed merely to encourage the development of effective local exchange competition. Indeed, our original decision to authorize unbundling in Order No. 90-920 was made well before the advent of local exchange competition. While the AECs--and local exchange customers generally-- will benefit from access to unbundled network elements, other potential purchasers include IXCs, CAPs, and other telecommunications carriers. Over time, we also propose to permit businesses and individuals to purchase unbundled network functions from the LECs. This capability will enable customers to reduce cost, configure their networks more efficiently and avoid the unnecessary duplication of facilities. Unbundling will also stimulate greater innovation and technological improvements in the provision of telecommunications services.

The Staff unbundling proposal is consistent with the level of unbundling contemplated by our Open Network Architecture rules and the Telecommunications Act of 1996. The ONA rules provide that unbundling shall occur at the building block level. Building blocks are defined in OAR 860-35-020(7) as "an element or group of elements representing the smallest feasible level of unbundling capable of being tariffed and offered as a service." Similarly, Section 251(c)(3) of the Act requires that incumbent LECs shall provide "any requesting telecommunications carrier . . . with nondiscriminatory access to network elements at any technically feasible point on terms and conditions that are just and reasonable." As noted, the term "network element" is defined in Section 3(a)(45) as a "facility or equipment used in the provision of a telecommunications service," and includes "features, functions and capabilities that are provided by means of such facility or equipment . . ." Staff's proposal unbundles sufficient network functionalities to satisfy the requirements of the Act and our ONA rules, and will enable telecommunications carriers to purchase the functions they require. Additional functions may be requested by carriers under the ONA request process in OAR 860-35-070, or through negotations pursuant to the Act.

LEC Unbundling Proposals. The level of unbundling proposed by the LECs, on the other hand, does not fully comply with the Act or the requirements in our ONA rules. Although the LECs propose to make several building blocks available, a number of critical network functions are not included or are offered only on a bundled basis. The following paragraphs illustrate some of the more serious deficiencies in the LEC unbundling proposals:

(a) USWC's proposal omits a lineside NACC. GTE does offer an unbundled lineside port, but it is not compatible with ISDN service. As we observed in Order No. 94-1851, this network function is required so that a telecommunications carrier may provide NACs in competition with the incumbent provider without having to supply its own switch. Failure to make a lineside NACC available impairs the ability of alternative providers to compete and limits the range of options available to end users. As GTE witness Falls points out, shared tenant

service providers, cable television companies and electric utilities are all potential loop providers that may seek access to unbundled ports.

(b) USWC's proposed EICT is not fully unbundled, but is comprised of a number of discrete building blocks (*e.g.,* jumper NAC, cross-connect, multiplexing), which may not be required by telecommunications providers. The EICT also represents a substantial cost element to competitive providers. While the Commission does not object to USWC offering the EICT as a bundled service, it should also be required to offer the building blocks that comprise the EICT so that customers pay only for the network functions that they actually use.

(c) USWC's LIS-Link unbundled NAC proposal is inadequate. LIS-Link is offered only as a two wire point to point configuration capable of providing analog local exchange service. USWC does not guarantee that LIS-Link could be used to provide digital or high capacity services. USWC witness Karen Baird acknowledged that LIS-Link has very limited application in a business context where DS1 and DS3 NACs are more commonly used. It is not sufficient that DS1 and DS3 services are currently available under USWC's private line tariff. The private line tariff includes conditioning and channel performance features that may not be required by customers.[26] We find that failure to offer unbundled NACs capable of providing digital services such as ISDN will impede competition and disadvantage end user customers generally.

(d) The LEC proposals regarding unbundling of signaling ports and links are also inadequate.[27] Many telecommunications services such as CLASS services, enhanced 800 data base services, and ISDN call set up and control, rely on the operation of the SS7 system. SS7 is also the platform for a variety of advanced network applications. We agree with Staff that the SS7 system must be unbundled extensively to provide customers with new service options and to avoid unnecessary duplication where customers provide their own signaling systems.

(e) USWC, GTE and United all refuse to unbundle "dark fiber" NACs. Dark fiber is a fiber optic line which provides transmission functionality without the aid of LEC supplied electronics. Use of dark fiber is not limited to specific band width applications such as DS0, DS1 or DS3. Staff advocates unbundling dark fiber from LEC electronics where adequate facilities exist to permit such an application. It argues that dark fiber should be made available both from any given customer location to an LEC's network and between LEC switches as an alternative to interoffice transport.

The LECs argue, *inter alia,* that the dark fiber building block is not a "service" within the scope of Commission jurisdiction. We disagree. Dark fiber is equipment used to provide telecommunications service and falls squarely under the definition of "service" in ORS 756.010(8), discussed above. In addition, dark fiber is clearly a "network element" as that term is defined in Section 3(a)(45) of the Act. Accordingly, incumbent LECs are also obligated under federal law to unbundle dark fiber just as they must unbundle other facilities and equipment used to provide telecommunications service.

[26]GTE's proposed unbundled loop offerings only includes a two wire digital NAC. Customers seeking four wire digital DS1 or DS3 service would purchase this capability out of GTE's private line (special access) tariffs. The record does not disclose whether GTE's private line tariffs include additional charges for conditioning and channel performance.

[27]USWC and United propose to unbundle signaling ports and links only after a request is made by a customer pursuant to the ONA request process in OAR 860-35-070. The details of GTE's proposal are unclear.

GTE maintains that dark fiber unbundling will undermine network capacity and flexibility by seriously disrupting forecasting, engineering and operational efforts. It maintains that existing fiber plant is sized based on current and projected loads, and is not designed to accommodate the demand or inefficiencies produced by a multi-provider environment. GTE further alleges that mandated unbundling would require construction of additional fiber facilities that are not needed for the company's integrated operation. The Commission is not persuaded by these arguments. Taken to their logical conclusion, they militate against the unbundling of any LEC network function. GTE is not arguing that it is technically infeasible to provide dark fiber, merely that the company did not plan on making these facilities available to other telecommunications providers. That is not a sufficient justification for not unbundling dark fiber. Obviously, consideration must be given to GTE's existing and future network requirements when faced with a request to supply unbundled fiber plant. The capacity of existing facilities and the need to construct new facilities are issues that should be negotiated under the Act by the incumbent LEC and the telecommunications provider seeking unbundled access.

LEC Arguments in Opposition to Unbundling. In addition to the jurisdictional arguments addressed earlier in this order, the LECs also advance several other arguments in opposition to unbundling:

(a) The LECs maintain that extensive unbundling will cause them to incur substantial costs without producing discernible benefits to end users. For example, GTE witness Falls details a long list of administrative expenses relating to maintaining records, coordinating meet point arrangements, testing, service quality measurement, handling customer complaints, and dispatching service technicians. We acknowledge that unbundling will entail certain costs. However, we do not expect that the costs will be prohibitive or outweigh the substantial benefits derived from making building block services available for purchase. As ELI emphasizes, unbundling will foster effective competition by providing end users with a true alternative to the services supplied by the incumbent. Competitive pressure, in turn, will drive prices closer to cost, accelerate the availability of new services and provide a level of service quality that is customer and market driven, not dependent on regulatory monitoring.[28] Evidence regarding the Portland high capacity private line market, for example, shows that USWC is facing pressure to improve service quality to avoid losing additional market share to competitive providers.

(b) The LECs also argue that the level of unbundling proposed by Staff may cause network failures and diminish the overall integrity of the local exchange network. These arguments are reminiscent of those raised when competition was first contemplated in the interexchange and customer premises equipment markets. We recognize that, as operational issues arise, procedures will need to be developed to accommodate an unbundled multi-provider environment. Initially, there may be some delays while provisioning arrangements are worked out between carriers. As in the case of interexchange competition, however, these problems are not insurmountable. None of the testimony presented on this issue is sufficient to persuade us that unbundling should be postponed for an indefinite period while every possible operational detail is resolved in advance.

(c) In addition to the foregoing, the LECs contend that unbundling will subject them to substantial financial risk, including the prospect of stranded investment. In the pricing section of this order, we discuss steps we have taken to minimize the financial impact of unbundling on the

[28]See Order No. 96-021 at 12, 20.

LECs. These include (a) including contribution to joint and common costs in building block rates; (b) limiting the availability of unbundled building blocks to carriers rather than all customers; (c) maintaining certain use and user restrictions; and (d) postponing the availability of wholesale pricing. We believe these actions will reduce the financial risk of LECs until such time as their rates can be reviewed in appropriate rate proceedings. In the event LECs experience an earnings reduction before such review is complete, they may seek interim rate relief pursuant to ORS 759.185.

Although the Commission has acted to minimize the potential decline in LEC revenues, it is not inevitable that earnings deterioration will occur. We anticipate that the initial demand for unbundled building blocks will focus primarily on loop facilities, as competitive local exchange providers seek to extend their geographical reach. We also expect that competition will center primarily on business exchange service because of the pricing constraints placed on residential and access rates. This competitive activity should exert downward pressure on LEC business rates, reducing the amount of contribution generated by those services.

At the same time, there is no reason to believe that the market for business services will remain static as competitive entry occurs. For example, USWC revenues in the Portland high capacity dedicated services market have grown notwithstanding a decline in market share due to competitive entry, a clear indication of overall market growth.[29] This is precisely the situation AT&T experienced in the interLATA toll market as competition began to take hold. In view of these facts, the Commission has every reason to believe that competitive entry will also stimulate market growth for local business services.

Overall growth in telecommunications markets should also diminish the probability of stranded investment for the LECs. Increased demand for services coupled with strong population growth throughout Oregon does not suggest that LEC's will encounter problems with stranded plant anytime soon. Indeed, our experience with USWC has been that the company is having major problems installing facilities fast enough to serve the needs of its customers. Moreover, we contemplate that interconnection negotiations among providers will address issues relating to the utilization of LEC facilities placed on behalf of competitive providers. Finally, we note that in UM 767, a USWC depreciation docket, we considered the need to retire utility plant before it is no longer functional when setting depreciation rates. *See* Order No. 96-117.

(d) USWC argues that Staff has not demonstrated that its proposed building blocks are technically feasible to provide. The record shows otherwise. Staff witness Wolf testified that:

> Staff's proposed building blocks do serve a network function and *in all cases* conform to the agreed upon definition of a building block as defined in Phase I of this proceeding. A building block is the smallest level of network functionality that feasibly may be tariffed and offered as a service. (Emphasis supplied.)

MCI witness Dr. Cornell also testified that unbundling was technically feasible. No party presented evidence refuting Mr. Wolf's or Dr. Cornell's testimony. Indeed, a review of Appendix B discloses that the LECs are offering to provide many of the same building blocks as

[29]Remarkably, the evidence shows that USWC's revenues from high capacity services have grown even though the company's service quality does not meet customer expectations. As we noted in Order No. 96-021, increased competition will force incumbent carriers to become more concerned with service quality.

Staff. On examination, USWC witness Baird agreed that it is possible to unbundle to a greater extent than that proposed by USWC.

(e) USWC argues that unbundling should be limited to building block functions for which there is known customer demand, or for which it is reasonably certain that demand will develop. It emphasizes that competitive providers have not specified any demand for unbundled facilities or shown that they will offer any new or different services to customers.

The Commission is not persuaded by these arguments. In the first place, USWC's focus on "new and different" services misses the point. As we observed in Order No. 96-021:

> When new markets first open to entry, the initial offerings are usually similar to those already available; that will likely be the case here. As competition takes hold, incumbents and new entrants will likely compete on the basis of customer service. By their very presence in the market, AECs will provide customers with enhanced operational and strategic security, by serving as redundant carriers. The fact that customers will have a choice of service provider is also new. At the very least, competition should improve the quality of service and enhance economic efficiency of all participants in the local exchange market. . . . .In the long term, competition should promote the new products, innovation and the deployment of existing technologies not yet in widespread use.[30]

Second, there is also no merit to USWC's claim that there should be a known demand before building blocks may be unbundled. We rejected a similar argument in Order No. 94-220, in docket AR 264. In that case, USWC argued that a viability test should be applied to determine if customer demand existed prior to unbundling optional features and functions (*i.e.,* BSEs and CNSs). We rejected this argument, emphasizing that the unbundling requirement in OAR 860-35-030 is "not triggered by customer requests or other independent or external events," but is rather "a threshold requirement intended to initiate the creation of a more open and accessible network." In addition, we held:

> Because an open network does not now exist, it is not surprising that demand for some services is difficult to assess. It may not be possible to adequately assess the demand for optional features and functions until they are offered on an unbundled basis. As noted above, it is a primary purpose of these rules to create an environment where both existing and new services can be offered in innovative and competitive ways.

The rationale articulated in Order No. 94-220 is equally valid as it pertains to the network building blocks under consideration in this docket. Moreover, we agree with AT&T that "requiring a known demand is not a characteristic of competitive markets. Competitors are always looking for a 'better idea or mousetrap, and new market niche, a product for which they will create demand.'"

(f) USWC and United maintain that unbundling denies LECs access to their own facilities because two carriers cannot share the local loop. We disagree. To begin with, it is not accurate to say that two carriers cannot share loop facilities in all circumstances. As staff points out, time-sharing of loop facilities is possible where a subscriber carrier is used to serve customers. More importantly, the Commission is convinced that loop unbundling is absolutely essential if

[30]Order No. 96-021 at 20.

effective competition is to develop in telecommunications markets. If competitors must construct all of their own loop facilities, meaningful competitive entry will not occur in the foreseeable future. As MCI explains:

> If there were realistic available choices for the supply of unbundled loop elements, MCI and other potential entrants would not be asking the Commission to order USWC, GTE and United to unbundle their networks. Moreover, if loops were competitively available, the incumbent LECs would not only not be resisting the unbundling of their networks, they would be volunteering to supply them.
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> . . . [USWC] was able to construct its ubiquitous network over several decades under the protection of monopoly status, with the advantages of a favorable, exclusive government franchise, rate of return regulation, access to rights of way, and other government assistance. Forcing the replication of USWC's facilities [by competitors] would be inefficient, would delay the advent of effective competition substantially, and would deprive Oregon consumers of years of competitive offerings.

(g) USWC argues that wireless service is a viable alternative to landline local exchange service. The LECs also note that loop facilities may soon be available from other providers such as cable television and electric utilities. Although the Commission expects that alternative loop facilities may someday compete with LEC NACs, there is an inadequate basis in this record to conclude that these options are currently a cost effective solution for a significant percentage of customers or that such loops are available in numbers sufficient to permit meaningful competition.

Given that alternative loop suppliers may enter the market in the not too distant future, we have difficulty understanding why any LEC would hesitate to unbundle its loops. Failure to unbundle will only accelerate efforts by competitors to acquire alternative technology to bypass LEC loop facilities. Once LEC loops are bypassed, all of the LEC loop investment attributable to customers that switch to competitors using alternate technology is effectively stranded. On the other hand, if loops are unbundled now and leased to competitors, it will reduce the incentive to bypass and still enable the LECs to recoup the cost of their loop investment, even if customers choose another telecommunications provider. From an economic perspective, therefore, opposition to loop unbundling is contrary to the financial well being of the LECs.

(h) USWC argues that the Commission cannot require unbundling of any element that does not function, standing alone, as a service. We disagree with this characterization. Neither the relevant statutes nor our ONA rules mention "stand alone" services. OAR 860-35-020(7) defines "building block" as the smallest feasible level of unbundling capable of being tariffed and offered as a service. While Staff witness Wolf testified that all of the building blocks proposed by staff serve an actual network function, there is no requirement that each unbundled building block must function independently, or apart from other network functions. As we have noted, the level of unbundling envisioned by the ONA rules is consistent with the "network element" unbundling contemplated by Section 251(c)(3) of the Act.

Additional Building Blocks. In addition to the building blocks identified by Staff, the Commission finds that the following building blocks should also be offered on an unbundled basis:

(a) Four Wire Channel out of a D4 Channelbank. The record indicates that this building block is a component of a four wire digital NAC and must be made available if customers are to purchase such facilities.

(b) Testing Access. We agree with ELI that testing access--the cost of equipment necessary to provide access to NACs for testing purposes--should be unbundled from the NAC rate and tariffed as a separate building block service. The record shows that it is possible for an interconnecting carrier to perform throughput testing of loops where it has collocated at a LEC wire center and has installed an integrated test unit.

(c) Intrapremises Riser Cable Facilities. We agree with ELI that LECs should unbundle riser cable facilities in buildings where the LEC assumes responsibility for those facilities.

(d) Concentration for Transport. We agree with MCI that interconnecting carriers should be able to purchase concentration for transport on an unbundled basis from the LECs. Where a LEC provides concentration for its own loops, an interconnecting carrier should be able to purchase concentration (and associated repeater or other signal treatment or channel performance items) from the LEC of the same quality and standard provided by the LEC for its own use. Where it is not feasible for an interconnecting carrier to provide transport concentration for its longer loops by collocating at a LEC central office, the carrier should be permitted to purchase concentration from the LEC as a component of the NAC or transport.

(e) Interconnection at RSDs and IDLCs. Where trunk concentration is provided through an IDLC, interconnecting carriers must be allowed to cross-connect to the IDLC. Otherwise, carriers will be forced to incur additional costs to purchase special circuits. Where a LEC uses an RSD to serve customers, carriers shall be permitted to interconnect at the RSD. Where it is not possible to collocate at an RSD, carriers shall be allowed to interconnect in the same manner as the LEC. These interconnection building blocks are necessary if competing carriers are to have reasonable access to the customers served by IDLC and RSD devices. Access to these facilities is consistent with our ONA rules, which permits collocation at LEC premises, including central offices, remote network facilities, or any other similar location owned by the LEC. It is also mandated by Section 251(c)(2)(B) of the Act, which obligates incumbent LECs to provide interconnection "at any technically feasible point within the carrier's network."

(f) Interim Service Provider Number Portability. This building block was authorized in Order No. 96-021. Interim service provider number portability tariffs have been filed by USWC and GTE and are under review in dockets UT 129 and UT 130.

The Commission finds that USWC and GTE should develop the relevant costs for the building blocks listed in (a)-(e) within 120 days of the date of this order. The tariffs shall specify building block rates that include markups consistent with the average markup for other building blocks in the same category. For example, the RSD interconnection building block shall incorporate the same average markup as the NACC category of building blocks.

Issue II: Signaling

On June 7, 1995, Commission staff filed a motion to limit signaling issues to the physical unbundling of signaling network equipment discussed under Issue I(c). Staff sought to exclude Issue II, dealing with message generation and signaling parameters (ISUP and TCAP), because it deals with highly technical issues relating to unbundling signaling software from signaling network equipment.

MCI opposed limiting signaling issues. It argued that transmission of the full ISUP message across interconnected networks is the only way for a carrier in a multiprovider environment to provide CLASS services for all of its subscribers' incoming and outgoing calls. MCI argued that Staff's motion would preclude the Commission from making a determination on the technical feasibility of unbundling, and unnecessarily delay bringing the benefits of unbundling to consumers.

On August 9, 1995, the ALJs issued a ruling granting Staff's motion. The Commission concurs with that decision. For purposes of this docket, the level of signaling unbundling proposed by Staff will allow transmission of the full ISUP and TCAP message, and will permit entrants to offer their customers the full range of CLASS, ISDN, and 800 data base services. Issue II involves disaggregating the signaling message itself, which implicates a number of technical issues, including Advanced Intelligent Network issues. If necessary, we address those issues in a future proceeding.

Issue III: Imputation

The Commission addressed imputation issues in Orders No. 94-1851 and No. 95-313 in this docket. Imputation is a regulatory device which establishes a price floor on LEC services that include one or more essential functions; that is, functions that must be used by other telecommunications service providers. It requires a LEC to charge itself the same price that other providers must pay to purchase essential functions from the LEC. Imputation thus prevents a LEC from creating a competitive advantage for itself by manipulating the price of LEC-supplied functions where no adequate alternative exists in the marketplace. In addition, LECs must impute the cost of all nonessential functions necessary to provide a service. This prevents LECs from engaging in anticompetitive conduct by pricing functions below cost or by cross subsidizing network functions.

Orders No. 94-1851 and No. 95-313 provide that:

> 1. The method of imputation shall correspond to the test set forth in ORS 759.050(5)(b). Thus, whenever a service offered by a telecommunications utility includes an essential function, the price of that service may not be less than the TSLRIC of the nonessential functions plus the price of the essential functions.
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> 2. An essential function is a functional component necessary to the provision of a service by a telecommunications provider for which there is no adequate alternative in terms of quantity, quality and price to the incumbent telecommunications utility.
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> 3. LECs shall impute prices for essential functions they actually use when those functions are also available to other telecommunications providers. When the functions used by a LEC are not available to another telecommunications provider, the LEC must impute the price of the essential function that the other provider must purchase to provide a service.[31]

[31]In the case where a LEC can choose between two similar functions to provision a service, and both functions are available to competitors, the LEC should impute the function it uses. Where only one of the functions is available to competitors, the LEC must impute the price of that function.

4. Imputation should be applied at the service level rather than each element within a service, provided LEC services are narrowly defined.

5. Where an essential function is unbundled and offered as a separate service, the LEC must impute the price it charges to other telecommunications providers for that function/service.

6. All building blocks, whether offered separately or as part of a bundled service, should be classified as essential functions until such time as the incumbent telecommunications utility demonstrates that there are adequate alternatives in the relevant marketplace comparable in quantity, quality and price.

AT&T, ELI, MCI, OCTA, ETI, UNICOM and **Staff** generally support the imputation policy articulated in Orders No. 94-1851 and No. 95-313.

ETI recommends that, until such time as LEC rates are rebalanced, existing bundled services should not have to pass an imputation test. Such an approach is necessary to ensure that resellers will be able to continue providing service to their customers. This is particularly important if the Commission adopts Staff's proposal to make building blocks available only to AECs until LEC rate rebalancing takes place.

USWC, GTE and **United** disagree with the imputation principles set forth in Orders No. 94-1851 and No. 95-313. Their positions and proposed modifications in imputation policy are discussed below.

USWC states that the primary purpose of imputation is to provide for competitive fairness. It argues that imputation policy should adhere to the following principles: (a) a service's price should be greater than TSLRIC; (b) imputation should establish equitable price floors to ensure that a price squeeze cannot exist; (c) imputation should be applied when a service is competitive and at least one of the components making up the competitive service is an essential function; (d) imputation should be based on the principle of competitive necessity[32]; (e) essential components may not be essential across all markets, (f) LECs should impute using the essential components as they are experienced by the most efficient competitor; and (g) for purposes of establishing price floors, the competitive necessity principle should supersede other imputation methods.

GTE argues that the imputation test in Orders No. 94-1851 and No. 95-313 is only a special case of the correct imputation method. According to GTE witness Dr. Edward Beauvais, the test articulated by the Commission is correct only if (a) the cost incurred by a LEC to supply a service is the same as the cost paid by competitors to the LEC for that service, and/or (b) there are no qualitative or quantitative differences in the facilities used by the LEC and its competitors to supply the service. In all other cases, the economically correct imputation price floor should equal the marginal cost of supplying a service plus the contribution (price less marginal cost) realized by the LEC. Dr. Beauvais argues that his imputation approach

[32]According to USWC, if a component is required by a competitor and that component (or a functionally substitutable component) is not reasonably available from a source other than the incumbent LEC, the price of the essential component should be imputed into the LEC's finished service at the same rate that would be charged to the competitor for that same level of functionality. If a component used by the LEC is not an essential component, then it should be included in the price floor at TSLRIC.

recognizes that a LEC may provision competing services differently than its rivals, and takes into account the possibility that different facilities may be used and different costs incurred.

United requests that the Commission (a) affirm that the purpose of imputation is to prevent price squeeze because a competitor has no feasible alternative but to purchase the building block from the LEC; (b) reject Staff's proposal to consider criteria such as price-to-cost ratios, barriers to entry, market share, etc., in deciding whether building blocks are essential; (c) allow exceptions to imputation to meet public policy goals; (d) affirm that imputation will not be required immediately or affect existing rates; (f) apply the imputation price floor at the service level; (g) require imputation of nonessential functions at TSLRIC to prevent predatory pricing[33]; (h) apply imputation in a manner that allows LECs to capture any efficiencies they achieve; and (i) reject proposals to include the SLC credit in the imputation analysis.

The LECs recommend the following changes in imputation policy:

(a) USWC, GTE and United do not agree that all building blocks should be classified as essential functions until a LEC demonstrates that adequate alternatives exist in the relevant marketplace. *See* Order No. 95-313 at 5. The LECs assert that there is ample evidence in the record for the Commission to conclude that many of the building blocks are generally available from other suppliers. For example, USWC observes that many competitors have their own switches and loop facilities, and that competitive local exchange providers are operating in other jurisdictions without unbundling functions such as interim number portability.

(b) The LECs argue that treating all building blocks as essential functions for imputation purposes will raise the price floor for telecommunications services and jeopardize public policy objectives such as universal service. Also, since competitors are "price takers," the Commission would control prices for telecommunications services rather than foster competition. USWC and United emphasize that such an approach will result in substantial rate increases for residential customers, as illustrated in Tables II and III of the price matrices.

(c) The LECs argue that they should not have to prove that a building block is not essential by showing that it is available from other providers at terms comparable in quantity, quality and price. Relying on ORS 759.050, USWC and GTE claim that this showing should be made by the party seeking unbundling. In other words, either the Commission or a competitive provider should have to show that adequate alternatives are not available in the market before a service may be unbundled and treated as an essential function. The LECs assert that they are not in a good position to determine whether adequate alternatives to LEC building blocks are available to competitive providers.

(d) The LECs maintain that they should not be required to impute the price of a building block if it can be self-provisioned by a competitive provider or obtained from any other source. In other words, if a competitor self-provisions a building block, there is an "adequate alternative" to purchasing from the incumbent LEC and the building block cannot be considered an essential function. According to USWC witness Dan Purkey, "use [of an alternative] by one competitor provides the demonstration needed to show that something is nonessential, since it should be

[33]The test for cross subsidization adopted by the Commission in Order No. 93-1118, and reaffirmed in Order No. 94-1851 requires that building block prices exceed TSLRIC. TSLRIC is defined as building block volume sensitive costs plus building block volume insensitive costs and any service specific costs. United agrees that, at the service level, group related volume insensitive costs and other common overheads should not included in TSLRIC because they cannot be directly attributed to a particular service without resorting to arbitrary allocations.

assumed that the competitor would not use the alternative if it was not adequate for their purposes." In support of this argument, GTE and USWC rely on dictionary definitions which define the term "adequate" to mean "minimally sufficient" or "barely satisfactory or sufficient."

(e) USWC argues that Orders No. 94-1851 and No. 95-313 do not acknowledge the possibility that regulatory requirements imposed only on LECs may result in an imputed price floor for LECs that is higher than competitors may experience. Imputation policy should therefore take into account for "identifiable inequities" imposed on the LECs by regulation. As an example, USWC suggests that, to account for the burden it faces as a designated toll carrier, originating switched access charges paid to independent LECs should not be included in an imputation test for intraLATA toll. According to USWC, these costs should be excluded to ensure that regulation does not unfairly disadvantage the incumbent provider.

(f) USWC argues that the costs developed in Phase I of this docket are not the proper costs to use in developing an imputation test. It states that TSLRIC is the sum of service specific volume sensitive and service specific volume insensitive costs of a service. In USWC nomenclature, this is referred to as Average Service Incremental Cost (ASIC) and is the proper cost to use to establish a price floor for a specific service. Where group related volume insensitive costs exist, however, Average Direct and Shared Residual Cost (ADSRC) is the appropriate method of calculating TSLRIC for imputation purposes. Neither approach, however, should be used to set the actual price for services. This is because ASIC does not include group related volume insensitive costs, and ADSRC does not include other common costs of the company.

USWC explains that its cost terminology is aligned with "services," while the Phase I terminology is aligned with building blocks. Because the Phase I costs used to prepare the price matrices (Tables I-III) in this case do not include group related costs or marketing costs necessary to provision a service, they should not be used to establish a price floor for imputation purposes. Rather, the cost of a particular service should be determined by combining the appropriate building block costs and all other costs caused by the decision to offer the service.

(g) USWC recommends that the Commission clarify Order No. 94-1851, which states that imputation is a regulatory device that imposes a price floor on LEC *services supplied to other providers* of telecommunications services. USWC contends that the focus should be on LEC price floors for competitive services provided to end users, not the services the LEC provides to competitors. Thus, it is more accurate to say that imputation imposes a price floor on LEC services which are in competition with other providers of telecommunications services who must use the essential functions provided by the LEC.

(h) United and GTE suggest that provisions in the Act relating to elimination of resale restrictions and resale at wholesale rates mitigate the need for an imputation test because they serve as a safeguard against price squeezes. GTE opines that, while cost floor analyses may still be relevant, the Commission should consider removing the imputation requirement for LEC retail bundled services.

Commission Findings and Decision: Issue III, Imputation

After reviewing the arguments presented on this issue, the Commission finds that the imputation policy articulated in Order Nos. 94-1851 and 95-313 is reasonable and should be

reaffirmed. As most parties acknowledge, imputation is necessary where a competitor must purchase essential functions from a LEC in order to provide a competing service. Requiring the LEC to impute the price of essential functions into the price of its own bundled services ensures that the LEC will not have an unfair competitive advantage over its competitors. The other half of the imputation test--requiring that non-essential functions be imputed at TSLRIC--also ensures competitive fairness by preventing a LEC from pricing services below cost and cross subsidizing services. As Dr. Cornell explains:

> The purpose of imputation is to prevent a bottleneck monopoly supplier of an input from abusing that position to prevent the development of competition for the end user services that require the use of the bottleneck monopoly input. . . . By definition, competition is not possible for the provision of the bottleneck monopoly input. If there is to be competitive supply of the end user service, no firm requiring use of the bottleneck monopoly input can acquire it on more favorable terms and conditions, including price, than any other firm requiring its use. If this requirement is violated, then the firm that acquires the bottleneck monopoly input on more favorable terms and conditions, including price, will be able to capture more market share than is warranted by its efficiency in providing the inputs that are subject to competition. This is bad for both the development of competition and for consumers.

The Commission disagrees with LEC arguments regarding the definition of "essential function" used in the imputation test. The definition of "essential function" we have adopted for imputation purposes is defined in ORS 759.050(1)(c) as "a functional component necessary for the provision of a service by a telecommunications provider, for which there is no adequate alternative in terms of quantity, quality or price to the incumbent telecommunications utility." In interpreting this term, we reject the argument that an "adequate alternative" is one that is minimally sufficient. The word "adequate" is derived from the Latin word "aequare," which means "to equal." Black's Law Dictionary defines "adequate" as "sufficient, proportionate, equally efficient, and equal to what is required." More importantly, the plain language of the statute states that an adequate alternative to a functional component provided by a telecommunications utility is one that may be purchased by a competing telecommunications provider in the relevant market at a comparable quantity, quality and price.

We also disagree with the LEC argument that an adequate alternative exists in the market if a competitive provider supplies a function to itself. A decision by a competitor to self provision a function is not a sufficient basis upon which to conclude that the function is available in the market at terms that are comparable in quantity, quality and price to functions offered by the incumbent. For example, a competitor may elect to self provision certain functions for reasons relating to its specific network architecture or because it wants to build redundancy into its system. This does not mean that the self provisioned function can be purchased in the quantity desired or at a cost and quality comparable to purchasing the function from the incumbent.

Likewise, the fact that there are one or more other suppliers of a network function does not necessarily mean that an adequate alternative for the function exists so as to render the function nonessential for imputation purposes. As we have emphasized, this determination requires an examination into whether the function offered by alternative suppliers in the relevant market is comparable in terms of quantity, quality and price. An affirmative finding will warrant

the conclusion that the function is not essential, even though it may only be offered by a single alternative provider.[34]

We agree with Dr. Hellman that the appropriate analysis for determining essentiality is basically the same as that required to conclude that effective competition exists for the network function in question. In making this determination, we will consider a number of factors, including comparability of products (availability, quality, terms and conditions); price to cost ratios; existing barriers to entry; market share and concentration; and number of suppliers. We will also consider the competitive yardsticks set forth in OAR 860-32-035(5), including the characteristics of supply side substitutability (including competitor share of overall market capacity, revenues, and minutes) and demand side substitutability (including customer perceptions of competitors as viable alternatives, customer switching behavior, and the variety of services offered to customers). If, after reviewing these factors, we conclude that the relevant market places substantial constraint on the prices charged by the LECs, price imputation will not be required.

Along the same lines, we disagree with USWC's claim that there is sufficient evidence in the record to conclude that adequate alternatives exist for many LEC services. Although USWC and the other LECs have offered a number of observations and conclusions regarding the state of competition, there are no facts in the record upon which to conclude that the competitive alternatives they mention are comparable in terms of quantity, quality and price. If the LECs wish to present facts in support of their claims, the Commission will review them and make the necessary determination. In the meantime, however, we decline to accept such representations merely on faith.

The LECs also allege that treating all building blocks as essential will unnecessarily increase the overall price floor and result in unreasonably high customer rates. Order No. 95-313 states that all building blocks should be considered essential functions *until the incumbent demonstrates otherwise*. This policy will prevent entrants from being disadvantaged by the exercise of LEC market power.[35] The Commission may authorize exceptions to the imputation policy to maintain universal service or advance other public policy goals.

We are also not persuaded by the claim that it is burdensome for the LECs to demonstrate that adequate alternatives exist in the relevant market. As we explained in Order 95-313, the LECs should have no difficulty ascertaining whether building block functions are available from other providers at terms comparable in quantity, quality and price. In addition, the showing that the LECs are required to make is comparable to the showing a telecommunications utility must make in order to obtain price listing authority under ORS 759.030.

There is no merit to the argument that the burden of proving nonessentiality should, by law, fall upon competitive providers or the Commission. GTE's procedural argument is premised on its interpretation of "essentiality" and the Commission's authority under ORS 759.050. As we have explained, the Commission's authority to prescribe imputation

[34]We also agree with Staff, ELI and GTE that a building block may be essential in one market, but nonessential in another.

[35]Local exchange service offers a good case in point. The incumbent LECs currently serve 100 percent of the local exchange market in Oregon. It is reasonable to presume that the LECs retain monopoly control over the network functions necessary to provide local exchange services until a showing is made to the contrary.

requirements does not derive from the competitive zone statute. In fact, price imputation was required well before the passage of that law.[36] Furthermore, the primary purpose of price imputation is to ensure that competitors are not disadvantaged by the manner in which the incumbent monopoly prices bundled services that contain essential functions. If a LEC wants to impute less than price for a given function, it should be required to prove that the function can be purchased elsewhere. Assigning the burden of proof to competitors is illogical because it requires them to prove a negative, *i.e.*, that adequate alternatives do not exist in the marketplace.

We do not agree with USWC that a LEC should be allowed to impute the price of network functions that the most efficient competitor would use. We agree with AT&T witness Robert Kargoll that:

> It is as equally important that the LECs be made to focus on how they, as opposed to their competitors, provision a service in calculating their price floor for end-user services. Staff witness Mr. Hellman correctly notes that the LEC should impute the price for those essential services the LEC actually uses (Staff/3, Hellman/7). The LECs, on the other hand, would have the Commission adopt an imputation standard that allows them to focus on how the most efficient service provider provisions its service. As I discussed in my direct testimony, twisting the imputation standard in this manner will lead to inevitable, and numerous disputes over how a more efficient competitor might provision a service. It will also allow the LECs to improperly "impute" to themselves efficiencies that their competitors may have been able to obtain. Such efficiencies must be earned by the LECs, and not misappropriated from their competitors, if the LECs wish to establish a lower imputed price floor for their services.

In addition, the Commission is not persuaded by USWC's claim that "regulation imposes specifically identifiable inequities" on LECs that should be accounted for in the imputation process. For example, USWC contends that costs associated with traffic originating in independent LEC territory should not be imputed to compensate for the burdens it faces as the designated toll carrier. We do not agree. In the first place, USWC has not established that its designated carrier status is a regulatory burden, rather than a benefit.[37] Second, removing direct costs from an imputation test is inconsistent with the fundamental purpose of imputation, which is to prevent anticompetitive price squeezes. Modifying imputation policy to account for perceived regulatory burdens would render the test useless. Finally, we agree with ELI that USWC's concerns could be alleviated by petitioning the Commission to implement statewide intraLATA equal access. IntraLATA dialing parity, would stimulate competition and substantially reduce, if not eliminate, the need for designated toll carriers.[38]

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[36]See Order No. 88-665, PUC Docket UT 47.

[37] In Order No. 96-021, we rejected similar arguments relating to USWC's carrier of last resort obligation. Order No. 96-021 at 59-60.

[38]We note that Section 251(b)(3) of the Act requires telecommunications carriers to provide dialing parity to competing providers of telephone exchange and telephone toll service. Section 271(e)(2)(A) of the Act further provides that a Bell operating company (such as USWC) granted authority to provide interLATA toll service originating within an in-region State must provide intraLATA toll dialing parity throughout the State coincident with the exercise of that authority.

We do not agree with USWC that ADSRC should be substituted for the methodology to calculate TSLRIC approved in Phase I of this docket. Specifically, it is incorrect to include group related volume insensitive costs in the TSLRIC price floor calculation as ADSRC does. Group related or "shared" costs are not an appropriate measure of economic cost because they cannot be traced to individual services. Although several methods exist to assign shared costs to products and services, such methods are inherently arbitrary because there is no criterion based on objective efficiency or equity by which such assignments can be carried out.[39] By including shared costs in TSLRIC, it would be possible to deter competition by purposely assigning more shared costs to essential functions. While we recognize that a firm must price its services to recover both shared and direct costs to remain viable, shared costs should not be included in the economic price floor calculation for imputation purposes.

The Commission does not agree with GTE that the imputation method recommended by Dr. Beauvais should be adopted. To begin with, we are not persuaded that GTE's approach is theoretically superior to the methodology set forth in Order Nos. 94-1851 and 95-313. Second, the imputation method we have adopted is consistent with the statutory approach set forth in ORS 759.050 and 759.250, and does not adversely affect the LECs. Finally, as Dr. Cornell points out, GTE's imputation approach may deter competitive entry by creating an incentive for the incumbent to ensure that it costs more to supply access to a dependent competitor than to itself. Dr. Cornell states:

> The incumbent controls how it is going to provide access to its dependent competitors. Thus, it can do so in ways that it can then translate in its cost studies as costing more than when providing that access to itself. Under this approach, entry never occurs, even if another firm is just as efficient at providing the non-access components as the incumbent. Indeed some firms that may be more efficient than the incumbent at supplying the non-access components are also prevented from entering.
>
> If Dr. Beauvais' approach to imputation is accepted, Oregon will face real dynamic losses. The history of entry in telecommunications shows that entry has been far more effective than any other spur in promoting cost-reducing technological change and the implementation of new technologies and service offerings. Blocking entry by allowing the incumbent to claim lower costs to provide itself with access than the costs to provide entrants with access will impose very high dynamic costs to consumers over time.

USWC requests that the Commission clarify its imputation discussion in Order No. 94-1851. Page 4 of that order provides that a LEC shall impute the price of essential functions:

> actually used [to provide a service] when those functions *may be purchased by* other telecommunications providers. When functions used by a LEC *cannot be purchased* by another telecommunications provider, the LEC should impute the price of the essential functions that the other provider must buy. (Emphasis supplied.)

To avoid misinterpretation, the words *are available for purchase* and *are not available for purchase*, may be substituted for the italicized language in the first and second sentences noted

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[39] Edwin D. Rosenberg, *A Note on the Concept and Application of Long-Run Incremental Cost in Telecommunications,* The National Regulatory Research Institute, at 3 (1994). See also William J. Baumol, *Superfairness: Applications and Theory* (Cambridge, Massachusetts: MIT Press, 1986), Chapter 7.

above. In other words, a LEC may only impute an essential function that it also makes available to its competitors. Thus, in a situation where it is possible to provision a function in more than one way, the LEC may not impute a less expensive function while supplying a more expensive function to a competitor.

As a final matter, both United and GTE argue that the wholesale/retail provisions in Section 251(c)(4) of the Act mitigate the need for an imputation test. GTE further states that such provisions may the eliminate any future need for an imputation test on LEC bundled services. The LECs do not explain their position, but their argument appears to be premised on the assumption that if wholesale rates are set at TSLRIC, competitors will face rates equal to LEC cost. However, the Act does not specify that the appropriate wholesale rate is TSLRIC. Nor is that a position that GTE and United advocate in this case; indeed, both vehemently oppose TSLRIC pricing. In any event, there is no basis in the record upon which to conclude that the prospect of wholesale prices is a sufficient safeguard to justify abandoning an imputation test.

Once resale restrictions for LEC bundled services are removed, as required by the Act, some may claim that the imputation test is satisfied because AECs can purchase bundled services at prices no higher than those charged by the LECs to end users. Removing resale restrictions, however, does not change the need to apply the imputation test. Unless an imputation test is applied, LEC bundled service prices would not be constrained by the prices of unbundled functions. This would impede facilities based competition and limit most competitors to pure resale of LEC services. As noted earlier, one of the Commission's objectives is the development of facilities based competition.

Issue IV: NAC Deaveraging

Currently, LEC local exchange services are priced on an averaged basis. Customers who are more costly to serve -- those who live in areas with low population density and are served by very long loops -- pay the same rates as other customers in their class who live in high density areas and are much cheaper to serve. One of the purposes of UM 351 is to set prices to better reflect the underlying cost to provide telecommunications service. To realize that goal, it may be necessary to deaverage network access channels (NACs). Comprehensive deaveraging of NAC prices would result in significant rate shock for some customers, however, because NACs are the most costly network component. Customer rate increases could be mitigated or offset by contributions from the universal service fund or by other Commission action.

Staff position. Cost studies conducted in Phase I and adopted in Order No. 93-1118, show significant cost difference among the three NAC types.[40] Staff argues that it is important to reflect these cost differences in LEC rates. Averaging all NACs together masks cost differences and does not allow customers to properly evaluate the true cost associated with purchasing additional NACs. Average NAC prices also send misleading signals to potential competitors.

[40]The Phase I cost studies used five different NAC distribution types. In Phase II, Staff combined the first two NAC distribution types to form the "dense" NAC building block. Staff combined the third and fourth NAC categories to form the "less dense" NAC building block. The fifth NAC type was used to represent the "sparse" NAC building block.

Staff initially proposed to deaverage NACs and flow through price differentials to relevant local exchange services. Staff's price matrix instructions separated NACs into three categories for dense, less dense, and sparse NACs. Staff proposed different local exchange rates corresponding to each of the NAC offerings.

Staff's long term goal is to deaverage NAC prices based on population density and loop distance. After reviewing the cost and price matrices submitted by USWC, GTE, and United, however, Staff now believes that deaveraged NAC rates would result in too great a rate increase for local exchange customers in less dense and sparsely populated areas. Moreover, a deaveraged rate structure would introduce additional administrative and billing costs. For the time being, therefore, Staff proposes statewide average rates for local exchange service across all density and distance categories. Average NAC rates should be based on the average total service long run incremental cost (TSLRIC) of each NAC type (voice grade, DS1, DS3, etc.).

Staff anticipates that the LECs may deaverage NAC prices within the competitive zones designated by the Commission pursuant to ORS 759.050. *See* Order No. 96-021. If the zone-specific TSLRIC for a NAC is below the LEC's statewide average TSLRIC, the LEC may reduce NAC rates within the zone below NAC rates charged outside the zone. Rates for bundled services within the zone would likely reflect the lower zone- specific rates the LEC charges for component building block services.

Staff does not object to the deaveraging proposals offered by USWC and United, but recommends that implementation be deferred until a rate case is conducted for each carrier. On the other hand, Staff opposes GTE's NAC deaveraging approach because it does not reflect density related cost differences. GTE proposes to charge the same rate for all NACs served by the same switch, despite the fact that each switch can serve many different NAC densities. Staff recommends that the Commission direct GTE to develop a deaveraging NAC proposal in its next rate case that is similar to that recommended by USWC or United.

Position of the LECs. GTE advocates repricing local exchange services on a deaveraged basis. The cost studies produced in Phase I of this proceeding show that NAC cost varies widely based on the density of the area served. Competition makes it imperative for LECs to deaverage prices to reflect cost, supply and demand, and other market considerations. Otherwise, competitors will self provision facilities in low cost areas and purchase averaged NACs in high costs areas, giving them an artificial advantage over LECs.

GTE proposes to deaverage local exchange rates on a revenue neutral basis to reflect cost differences at the exchange level. Exchanges would be classified into three market areas-- urban, suburban, and rural-- based on the number of access lines per square mile or other appropriate geographic or market considerations, such as proximity to a dense urban area.

Under GTE's proposal, an urban exchange has more than 1,000 access lines per square mile; suburban exchanges have between 51 and 1,000 access lines per square mile; rural exchanges have 50 or fewer access lines per square mile. A suburban exchange may be classified as urban if it is contiguous to an urban exchange.

GTE regards its exchange level deaveraging plan as a short-term solution that will provide the pricing flexibility necessary to meet the rapid changes occuring in telecommunications markets. Unlike the approaches suggested by USWC and United, GTE argues that its transitional approach mitigates rate shock for customers in low density, high cost portions of its exchanges. In the future, GTE intends to develop rates based on volume and

term commitments. GTE requests authority to present its proposals as part of a revenue neutral rate redesign.

USWC contends that averaged prices need to be replaced with deaveraged or situation specific prices in a competitive environment. Otherwise, LECs will be vulnerable to competitive providers who will have pricing flexibility and can target profitable market segments where LEC rates are averaged and do not reflect actual costs.

USWC proposes a small initial list of building blocks for deaveraging: two-wire analog NACs, toll, DDS, DS1,[41] and DS3 NACs, and local exchange service (residence and business services). For all products that include a two-wire analog NAC, including the unbundled LIS-Link, USWC proposes a two zone NAC deaveraging structure. NACs are priced depending on their relationship to a central office and metropolitan statistical areas (MSA). Lower Zone 1 rates apply if a customer is located within 5 miles of a switch in an MSA or within 2.5 miles if switch is located outside an MSA. Otherwise, the higher Zone 2 rates apply. USWC realizes that this proposal may cause some rate aberrations and is willing to work with Staff to produce a viable plan.

For DDS, DS1 and DS3 NACs, USWC proposes to mirror the FCC three-zone deaveraging methodology. That methodology reflects the relative density for each serving wire center. The zone appropriate for each wire center is based upon minutes of use per square mile. The three zones were established to allot roughly equal amounts of DS1 and DS3 demand into each zone on a company wide basis.

USWC argues that its proposal reflects distance and density factors that drive NAC costs, and is a reasonable first step toward changing historical pricing practices. The proposal also minimizes customer rate increases, since 92 percent of business customers and 85 percent of residential customers would be eligible for lower Zone 1 prices.

USWC opposes arguments by ELI and others that cost should be the only basis for deaveraging rates. It cites Order No. 94-1851 for the proposition that prices in competitive markets should reflect a wide variety of market factors. USWC asserts that competitors will deaverage rates by offering volume discounts, long-term discounts, and other incentives that allow customers to receive services below the average price for the service. To ensure a balance between regulation and competition, the Commission should establish pricing policies that acknowledge the need to respond to market conditions.

In addition, USWC notes that the legislature anticipated the need for LEC pricing flexibility when it passed the competitive zone statute, which permits telecommunications utilities to offer customers within a competitive zone different prices and terms for service from those offered outside the zone. USWC asks the Commission to acknowledge the clear intent of the statute and allow LECs to deaverage in response to competitive pressures. It also points out that deaveraging of local exchange services will be necessary for the LECs to draw Category 1b universal service support authorized in UM 731.[42]

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[41]This includes deaveraging of all products that use a DS1 NAC, including ISDN Primary Rate.

[42]In Order No. 95-1103, the Commission adopted a high cost support mechanism for regulated LECs not participating in the Oregon Customer Access Fund. Universal service fund support is based on LEC overall intrastate revenue requirement per network access channel. Category 1b universal service fund amounts would be paid directly to the LEC.

USWC urges the Commission to reject MCI's position that revenue losses within competitive zones should not be recouped by offsetting rate adjustments outside of the zones. USWC claims that, as long as the Commission retains its ratemaking function, it must provide incumbent LECs an opportunity to earn a reasonable return on utility investment.

USWC argues that its deaveraging proposal is consistent with the Act. It observes, however, that Section 254(b)(3) requires rural and urban services to be priced at reasonably comparable rates.

United recommends that the Commission support basic service deaveraging. United argues that deaveraging is integral to economically efficient pricing and is an important pricing tool in a competitive environment. Deaveraging sends correct signals and may attract competitive entry in traditionally high cost areas. It also allows LECs the opportunity to compete effectively in high density, low cost areas. United argues that the record supports cost based deaveraging, that is, deaveraging that reflects cost variations caused by loop density and distance. The Commission should endorse this approach as competition develops.

United proposes that the Commission establish general principles for deaveraging rather than endorsing any specific plan at this time. United proposes to segregate NACs into two categories, with different rates for customers within and outside a base rate area. The base rate area would include approximately 90 percent of United's customers. The customers outside the base rate area are served by very long NACs in sparsely populated areas.

To avoid substantial rate increases in sparse areas, United emphasizes that deaveraging should be coordinated with the amount of competitive entry and the implementation of a universal service plan. If deaveraging is implemented too far in advance of competition, customers will incur sizable rate increases without corresponding benefits. If it is implemented too late, customers will receive incorrect pricing signals and entrants will be able to exploit pricing anomalies. Accordingly, the Commission should allow for flexibility not only in the implementation, but also in the structure of deaveraging.

United points out that Section. 254(g)[43] of the Act prohibits toll deaveraging, but not local rate deaveraging. The provisions of Section 254(b)(3) regarding universal service specify that rates for services in sparse, insular, and high cost areas should be priced reasonably compared to rates in dense areas. United argues that this principle may be met through sufficient federal and state mechanisms to preserve and advance universal service. See Section 254(b)(5). The higher sparse rates are set relative to urban rates, the greater the potential for burdening universal service funds. According to United, it is reasonable to expect the Joint Board on universal service to establish local rate thresholds that limit federal contributions so that certain states do not benefit more than others because of state pricing policies.

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[43]Section 254(g) provides: Interexchange and Interstate Services.--Within 6 months after the date of enactment of the Telecommunications Act of 1996, the Commission shall adopt rules to require that the rates charged by providers of interexchange telecommunications services to subscribers in rural and high cost areas shall be no higher than the rates charged by each such provider to its subscribers in urban areas. Such rules shall also require that a provider of interstate interexchange telecommunications services shall provide such services to its subscribers in each State at rates no higher than the rates charged to its subscribers in any other State.

Positions of the Intervenors. ELI, MCI and **AT&T** argue that deaveraging should be allowed only if it is based on actual cost differences. Deaveraging should not be permitted if the cost exceeds the potential gain in economic efficiency, causes rate shock or endangers public interest goals.

MCI acknowledges that the cost of providing loops varies across service areas because of the different physical characteristics of exchanges. The Commission may deaverage loop prices to recognize that cost variation, but should do so with extreme caution. Prices for deaveraged loops should correspond to changes in legitimate cost drivers. Discriminatory rates or rate structures with anticompetitive effects should not be permitted.

ELI and AT&T agree that the wholesale rate for the NAC should be deaveraged in the competitive zones in relation to rates established outside the competitive zones. Under this proposal, the wholesale rate for NACs in the Portland competitive zones would be a weighted average of the basic NAC TSLRIC in the first two density zones, using the density zones in USWC's price/cost matrices. The wholesale price for basic network access channels throughout the rest of the state would be a weighted average of all three density zones.

According to ELI, deaveraging wholesale rates for basic NACs in this manner will reduce the ability of LECs to impose a price squeeze and alleviate Staff's concern that deaveraged rates will produce large rate increases. Competitors could be placed in a price squeeze if LECs deaverage the price of retail services in competitive zones without reducing the underlying wholesale price for the basic NAC. AT&T recommends that competitors be permitted to purchase deaveraged NACs at wholesale prices at the conclusion of this docket. Implementation for other customers should be deferred.

ELI, MCI and AT&T oppose allowing the LECs to deaverage prices on a revenue neutral basis. ELI points out that USWC's proposal to deaverage digital NACs is not based on underlying cost, and would shift revenue recovery from one class of customers to another. According to MCI, deaveraging should not be used to impose a greater contribution recovery to NACs that do not face competition. Instead, the Commission should set rates for a LEC's entire service territory. Once those rates are set, deaveraging within the competitive zone should not be offset by price increases outside competitive zone. Loss of market share should lead LECs to reduce costs, not raise prices. If LECs are allowed to offset losses inside the competitive zone by increasing prices outside the zone, they are effectively insulated from competition.

OCTA supports Staff's deaveraging proposals as a long term goal, but urges the Commission to maintain averaged NAC rates in the near term. OCTA members are local exchange business customers who would be harmed by immediate deaveraging. OCTA urges that deaveraging should be related to the level of competition. To allow NAC deaveraging before meaningful competition arises will allow incumbent LECs an effective tool to limit competitive entry.

OCTA also asks the Commission to consider the harmful effects of secondary line price discrimination. This occurs when a customer receives a preferential price that injures competitors. In Oregon, the market boundaries of competitive providers may not match telephone exchange and competitive zone boundaries. OCTA argues that it is unfair for a business operating in a designated competitive zone to receive lower priced telecommunications service relative to competing businesses located outside the zone.

Unicom argues that the current proposal for deaveraging establishes a costing scheme under which the pricing elements are lower in the largest cities and substantially higher elsewhere. The costing differential will thwart competition except in the cities. Zone 1 should be defined as any metropolitan area within the State that has a population in excess of 10,000 people. By broadening the definition in this way, the majority of the citizens in the state would reap the benefits of competition at the local exchange level.

Commission Findings and Decision: Issue IV, NAC Deaveraging

Based on the preponderance of evidence in the record, the Commission makes the following findings:

The Phase I cost studies adopted in Order No. 93-1118 show significant cost differences among the three NAC types in dense, less dense, and sparse population areas. Most parties agree that these cost differences should be reflected in rates at some point. The Commission concurs. Because averaged NAC prices do not reflect underlying costs, they send misleading signals to consumers and competitors and lead to uneconomic consumption of telecommunications services. At the same time, we are concerned that NAC deaveraging will produce substantial rate increases for certain customers. For that reason, we adopt Staff's proposal to retain statewide average local exchange rates across all density and distance categories.

We acknowledge that LECs have pricing flexibility under the competitive zone statute to implement deaveraged NAC rates between and among the different competitive zones that we have authorized. The statute also permits the LECs to charge different prices for NACs sold within and outside of the zones. The Commission will monitor the pricing flexibility exercised by the LECs to ensure against pricing anomalies and anticompetitive conditions.

On a conceptual basis, the Commission has no major objections to the NAC deaveraging proposals offered by USWC and United. Their proposals are cost based, and the zone approach minimizes the number of customers subject to rate increases. Universal service support can offset potential rate increases for residential customers served by less dense and sparse NACs. The details of each deaveraging proposal will be examined at the time a rate case is conducted for each LEC.

We agree with Staff that GTE's NAC deaveraging proposal does not reflect customer specific cost differences related to density factors. GTE proposes to charge the same rate for all NACs served by the same switch, even though each switch may serve many different NAC densities. In its next general rate case filing, GTE should develop a revised deaveraging proposal that better reflects underlying NAC cost elements.

Issue V: Pricing, Markups, and Contribution

The Commission's pricing policy is set forth in Orders No. 90-920, 94-1851 and 95-313. Those orders adopt the following pricing principles:

a) Cost of service is the appropriate starting point for determining rate levels. LECs should have flexibility, within reasonable parameters, to propose prices that respond to

competition and other market objectives. LEC rate filings for new services should include justification whenever proposed rates vary significantly from the average markup over cost exhibited by overall LEC rate levels.

b) Prices should conform to the test for cross subsidization adopted by the Commission in Order No. 93-1118. The Commission may permit exceptions to the requirement for public policy reasons.

c) LEC rates should be revised over time to better reflect costs and encourage economic efficiency. The Commission will endeavor to adjust price gradually to minimize customer rate shock, subject to the constraints imposed by competition.

d) The level of contribution in LEC rates will depend on several factors, including the economic price floor, market forces and public policy considerations. These factors may dictate different contribution levels for different building blocks or services. Bundled service rates may also vary between customers who are not similarly situated, but the price of unbundled essential functions should be the same for all customers.[44]

The parties recommend several different approaches to pricing telecommunications services. Those proposals are set forth below:

Staff Rate Design. Staff endorses the pricing principles in Orders No. 90-920, 94-1851, and 95-313, and envisions a multi-step approach to developing LEC rate designs. The first step is to develop a rate spread in which rates are set above the average total cost estimates[45] by an equal percentage markup, so that expected LEC revenues will achieve the Commission's overall revenue target for the LEC. Second, the rate spread should be examined to determine if it meets public policy objectives, such as universal service. If rates for certain services need to be adjusted, Staff recommends uniformly adjusting the percentage markup above average total costs for the affected building blocks. Corresponding rate adjustments would be made to the bundled services using those building blocks.

Staff contends that an equal percentage markup approach to designing LEC rates will result in rates that more uniformly reflect costs, promote economic efficiency and reduce the potential for price discrimination. Rates for new LEC services should range from a price floor of TSLRIC (as estimated in Phase I of this docket), or the minimum imputed price, whichever is applicable, to a price ceiling equal to the Table I average total cost plus three times the LEC's average percentage markup. Staff maintains that allowing a LEC to price new services at three times its average percentage markup will allow sufficient pricing flexibility and still maintain a reasonable relationship between rates and costs. The LEC or Staff could seek exemptions from the proposed price ceiling if conditions warrant.

[44]We also observed that charging the same price for the same function encourages effective competition by minimizing the potential for anticompetitive pricing. It also permits the Commission to accurately identify the level of contribution or subsidy inherent in current rates. Order No. 94-1851 at 6. For the present, we find that building blocks should be available for separate purchase only by telecommunications carriers, rather than all customers.

[45]The costs used to develop the price matrices include the sum of the service volume sensitive and volume insensitive costs, plus a share of applicable group-related volume insensitive costs. The matrix costs differ somewhat from the cost methodology adopted in Phase I of this docket. The Phase I cost methodology defines TSLRIC as the sum of the volume sensitive and volume insensitive costs of the building blocks that comprise the service, plus any service specific costs, but excludes group-related volume insensitive costs.

Although Staff agrees that LECs should have pricing flexibility to meet competition, it argues that the amount of flexibility should be a function of the degree to which the relevant market places pricing constraints on the LEC. Thus, pricing flexibility is appropriate if there are viable alternatives to a LEC-provided service and effective competition exists in a particular market. On the other hand, if the LEC maintains market power over a service, continued regulatory oversight is required to prevent discriminatory and economically inefficient rates. Staff asserts that, for the most part, the LECs have not shown that competition has limited their market power.

Staff's proposed rate design starts with the development of rates at the building block level. Each building block is priced based on the formula approach described above.[46] Once building block prices are established, they are added together to form prices for bundled services. Staff argues that its pricing method will allow greater consistency between and among existing LEC services because prices will reflect the cost of each building block used in packaging a service. Competitors will benefit because they will be able to avail themselves of unique elements of network functionality that the incumbent LECs provide. All other customers will benefit because through greater application creativity and technological innovation that comes from correct market signals.

Staff's rate design limits the markup on NACs. According to Mr. Wolf, NACs are the most costly element of local service, and a high NAC contribution would result in very high bundled service prices. Constraining the percentage markup on NACs will foster competition by lowering the price that customers pay for NACs, and produce lower local exchange bundled service prices than would otherwise be the case. By constraining the NAC markup, Staff's formula produces a basic local service rate of $20.43 for USWC customers, compared with a rate of approximately $26.00 without the contribution constraint. GTE and United local service customers would pay NAC-constrained local service rates of $20.47 and $27.18, respectively.

After calculating NAC rates and revenues, Staff marked up all other functions on an equal percentage basis sufficient to cover the LEC's current total revenue for all services. Staff's argues that its proposed rate levels, together with the proposed elimination of use and user restrictions, will stimulate demand for building blocks and create new services capable of producing substantial revenues for LECs. At the same time, the ability to purchase building blocks on an individual basis represents an alternative to purchasing existing LEC bundled services and will result in some degree of revenue erosion.

Staff proposes a single local rate for business and residential customers prior to application of the FCC SLC and any universal service charge required by the Commission.[47] In order to enhance economic efficiency and nondiscriminatory rates, Staff's rate design also eliminates use and user restrictions, such that all local private line, switched access, and special access customers pay the same price for the same network function.

[46]The pricing of both bundled and unbundled services starts with approved Phase I costs. An equal percentage contribution is determined to enable the LEC to recover total revenues equal to their current earnings. Contributions are then adjusted to reflect Staff's view of appropriate prices for each function. Each function has the same contribution level in all cases, but different functions may have different contribution levels.

[47]The local flat rate is created by combining the NAC, NACC, switching, and transport building blocks.

Staff acknowledges that, once network functions are unbundled and made available to all customers without use and user restrictions, limitations on resale no longer make sense. As a consequence, Staff's rate design does not distinguish wholesale rates from retail service rates. Staff argues that once bundled services have been repriced, unbundled functions should be universally available and that any resale should be based on economic efficiency, not regulatory arbitrage.

Staff's rate proposal will have a significant impact on switched access rates, because switching rates will decline substantially from current rate levels. Staff's proposed switching rate does not include any subsidy elements such as the residual interconnection charge (RIC), CCLC, or universal service charge. The reduction in the switching rate shifts revenue recovery from access services to local services.

Staff's proposed switching rate also causes a substantial reduction in intrastate LEC toll rates. USWC toll rates currently range from $0.26 per minute for and initial minute to $0.07 per minute discounted for time of day. Under Staff' s building block pricing approach, USWC's toll rate would be $0.03 per minute on average. GTE's toll rates would experience even greater reductions.

Because of the proposed reductions in toll rates, Staff recommends eliminating flat rate and measured EAS charges. EAS, like toll, would be offered on a measured rate basis. Effectively, there would be no difference between the EAS rate and the corresponding toll rate.

In addition to the revenue shifts from access and toll to local services, the elimination of use and user restrictions will also have a major impact on local rates. Business rates will decrease while residential rates will increase. Also, there will no longer be a rate difference between the types of business service usage. For example, Centrex and PBX customers will pay the same rate per line. In the case of USWC, the basic flat rate proposed by Staff for all business and residential customers is $20.43. Excluding the SLC, USWC's current business and residential rates are $30.87 and $12.80, respectively.

Staff acknowledges that its rate design will result in a substantial rate increase for residential customers. At the same time, customers will benefit from much lower intraLATA toll rates and a sizable reduction in switching feature rates. To mitigate the impact on residential customers, the Commission would have to (a) retain a use and user classification specifically for residential customers; (b) ascertain a maximum rate for residential customers; (c) implement a rate design mechanism to produce sufficient revenue to cover the residential rate/revenue shortfall, and (d) decide who should contribute to such a mechanism. If the Commission caps residential rates below $20.43, Staff recommends increasing either the terminating switching rate or the interoffice transport rate to compensate for the revenue shortfall that would otherwise result. For example, Staff estimates that capping USWC's residential rate at $15.00 will produce a monthly revenue shortfall of approximately $3.5 million.

Staff proposes that the LECs seek a waiver from the FCC to permit them to charge a uniform SLC on all bundled local exchange services[48] and all NAC building block services. The SLC is an interstate rate element charged to all end users who subscribe to switched local exchange telephone service. It is an add-on to the intrastate rates and is designed to recover

[48] Staff recommends that the LECs charge the same bundled rate for business and residential local service. LEC intrastate tariffs would still distinguish residential from business customers, however, in order to allow for differential application of universal service credits.

part of the allocated interstate cost of subscriber lines. The remainder of the cost is charged to interexchange carriers via the interstate CCLC. As noted above, the CCLC is a per minute rate assessed on all interexchange carriers that use local switching and subscriber lines to originate and terminate interstate interexchange traffic.

Currently, the SLC is recovered from end-user customers at the rate of $3.50 for residences and single line businesses, and $6.00 for the second and each successive business line. Staff's proposal eliminates the existing residential/business distinction, and results in a uniform SLC to recover the appropriate interstate revenue requirement for each LEC. Staff further recommends that the waiver filed with the FCC include a request to allow the LECs to bill AECs for the SLC whenever the AEC purchases the unbundled equivalent of a subscriber line (*i.e.*, a NAC and NACC). In addition, Staff proposes that the LECs request FCC authority to charge AECs a flat rated CCLC on the purchase of each unbundled NAC.

From a timing standpoint, Staff recommends that the Commission require the LECs to initially offer building blocks on an unbundled basis to AECs only. Staff also proposes that the LECs be required to develop revised rates and rate rebalancing proposals for all of their services, and file tariff changes pursuant to ORS 759.180. USWC filed its rate increase application in December 1995. Staff recommends that GTE and United should also be required to file revenue requirement case and rate rebalancing proposals. Staff proposes that the Commission suspend the filings, and after investigation, establish entirely new rates for each LEC. The new LEC rates would incorporate the unbundling and pricing decisions approved in this order.

Staff acknowledges that LECs will be exposed to a risk of revenue erosion if unbundling (including eliminating use and user restrictions and existing limits on resale) occurs prior to repricing the LEC's bundled service rates. The greater the time lag between unbundling and repricing, the greater the risk. Staff maintains that its approach will make unbundled services available where they are needed most--to AECs--while protecting LECs from significant revenue erosion caused by the substitution of building blocks for bundled services. Also, by restructuring LEC rates in rate proceedings, customers will be afforded an opportunity for notice and hearing on the potentially significant rate changes that may result.

Opposition to Staff Rate Design. Although there is general agreement that cost is the appropriate starting point for establishing LEC prices, several parties oppose Staff's recommended rate design. **USWC, GTE** and **United** argue that Staff's approach does not consider market factors or provide LECs with the pricing options necessary to accommodate emerging competition in telecommunications markets. GTE witness Dr. Beauvais observes that, in calculating the markups from marginal cost pricing, there should be as little distortion from the quantities which would occur if prices were set equal to incremental cost. The uniform pricing solution that results in the least distortion to efficient quantities calls for prices increases that are inversely proportional to the own-price elasticity of demand for a given service. Dr. Beauvais states that Staff's proposal for equal percentage markups above incremental cost is unlikely to result in the greatest efficiency gains possible. He emphasizes that both supply and demand determine price in the marketplace, not merely one or the other.

The LECs point out that Staff's formula approach would cause major rate shifts for existing services without regard to supply and demand or LEC revenue losses that may occur. They also emphasize that the Staff proposal shifts significant contributions from discretionary nonessential services to basic residential service without regard to customer rate shock and other public policy considerations. For example, the LECs note that Staff's rate design will

produce drastic reductions in custom calling features, despite the fact that the market places a higher value on these services. USWC argues that the rates proposed for custom calling are so low that they will discourage competitors from self provisioning the service.

The LECs argue that Staff's proposal does not conform with Order No. 94-1851, which contemplates that LECs should have pricing flexibility to respond to competition. They argue that they cannot survive in a competitive environment unless they have flexibility to adjust prices in response to market conditions. GTE further maintains that substantial price decreases for access, toll and custom calling services and the resulting increases for residence local service generated by Staff's pricing formula are not required by market conditions. Similarly, United observes that Staff's proposed Centrex prices cannot be sustained in a competitive market.

The LECs also oppose Staff's recommendations regarding timing and implementation. They maintain that any unbundling and repricing authorized in this docket must be revenue neutral. If not, LECs will be exposed to revenue erosion as customers begin to substitute building block services for LEC bundled offerings and resellers take advantage of price disparities. Also, while Staff's schedule assumes that AECs may purchase LEC building blocks for several months before LEC rates are rebalanced, that process may take longer to accomplish, further increasing the chances of LEC revenue loss. United argues that a sufficient record exists in this docket to reprice its services without the necessity of rate case proceedings. It contends that its rate design will move prices toward economically rational levels and reduce the risk of uneconomic entry without the customer rate shock associated with Staff's proposal. GTE and USWC make similar arguments in support of their respective unbundling and pricing recommendations.

AT&T, MCI and **ELI** argue that Staff's proposed rate design is inconsistent with the pricing standards in Section 252(d)(1) of the Act which requires network element prices to be based on cost without reference to a rate of return or other ratebase proceeding. AT&T, ELI and MCI contend that Staff's equal percentage pricing formula contravenes the Act because the proposed markup is designed to enable LECs to earn their respective revenue requirements.

In addition, AT&T, MCI and ELI argue that Staff's pricing proposal effectively prohibits competition from developing in the residential local exchange market. They allege that the building block prices proposed by Staff cannot be combined to create a service capable of competing with LEC flat rate retail offerings.

AT&T and ELI also argue that Staff's proposal to require purchasers of unbundled NACs to pay the SLC and CCLC will (a) insulate LECs from competition by insuring that revenue requirements are met; (b) eliminate efficiency incentives; and (c) create a price squeeze. AT&T further maintains that Staff's proposal ignores the manner in which competitors price their services. Although new entrants are not required to charge the SLC on customer services they provide, they will establish prices by looking to the market price set by the LECs (which includes the SLC). In a competitive market, the LECs will respond to market pressures by reducing their prices. If LECs are instead allowed to charge the SLC and CCLC, they will enjoy a cost advantage over competitors to the detriment of consumers generally.

AT&T, MCI and ELI Pricing Proposal. AT&T, MCI, and ELI recommend that unbundled building blocks be priced at TSLRIC.[49] These parties allege that this approach will

[49]ELI and MCI argue that interconnection building blocks they have proposed should be priced at TSLRIC. See ELI Exhibit 2; Staff Exhibit 21. AT&T argues that all unbundled building blocks should be priced at TSLRIC.

increase efficiency, drive retail prices closer to the actual cost of providing service, and force the incumbent LECs to be more responsive to customer needs. Moreover, all firms will be required to look to their retail customers for recovery of all joint and common costs.

AT&T, MCI and ELI emphasize that building block prices should not include any markup to recover contribution to common costs. Pricing building blocks above TSLRIC will cause the overall retail price floor to increase because competitors must recover not only their own direct and indirect costs, but also the indirect costs of the LEC. These parties point out that toll rates are priced substantially higher than TSLRIC because of the high level of contribution incorporated in LEC switched access rates. As noted above, AT&T also emphasizes that non-cost based elements such as the SLC and CCLC should be eliminated because of the adverse impact on competition and retail rate levels.

AT&T, ELI and MCI also contend that pricing building blocks above TSLRIC provides the incumbent LEC with an opportunity to abuse its market power. LECs will deliberately limit markups for customers with competitive alternatives, while imposing a disproportionate share of contribution on purchasers of essential building blocks in order to minimize revenue losses. Pricing building blocks at TSLRIC, on the other hand, will place the entrants on an equal footing with LECs.

In addition, AT&T, ELI and MCI maintain that setting prices based on a revenue requirement is obsolete in competitive markets. Under a revenue requirement approach, losses incurred by the LEC to provide competitive services may be offset by increases in rates for non-competitive services. LECs have little incentive to operate efficiently, and may incur uneconomic costs that are passed on to ratepayers. In competitive markets, on the other hand, firms cannot shift revenue requirements between services, and are forced to reduce costs, not raise prices. Moreover, since building blocks represent new services, it is not possible to accurately forecast the demand for building block services or the overall impact on LEC revenue requirements in any case.

AT&T, ELI, and MCI argue that pricing building blocks at TSLRIC will not preclude LECs from earning a fair rate of return. If necessary, the Commission can always intervene to revise rates. These parties also contend that pricing building blocks at TSLRIC is consistent with the pricing standard in Section 252(d) of the Act. While the Act permits prices to include a reasonable profit, a markup above cost is not mandated. These parties assert that TSLRIC includes a return on investment that represents a reasonable profit for the LECs.

In the event the Commission finds that building block prices should include contribution to LEC common costs, AT&T, ELI, and MCI recommend that the maximum markup should be the common overhead factor presented by USWC witness Robert Bowman.[50] These parties claim that applying the common overhead factor will reduce USWC's concern that competitors are being subsidized by other retail customers, and eliminate Staff's concern that competitors will receive an economic windfall if building block prices are set at TSLRIC.

MCI Rate Design. In addition to its TSLRIC pricing recommendations, MCI proposed a rate design for USWC's network functions and bundled services. MCI's list of bundled services is similar to that included in the Table II price matrix, except that MCI maintains a distinction between residential and business rates. MCI recommends that rates for residential local exchange service should remain unchanged until a competitively neutral universal service

[50]USWC's common overhead factor is a confidential number.

support mechanism is implemented. In support of this proposal, Dr. Cornell testified that rates paid by USWC's residential local exchange customers, as a class, recover the TSLRIC of that service. Revenues received from residential customers in the dense and intermediate zones offset the revenue deficiency from residential customers in low density zones. Except for residential service, Dr. Cornell recommends that all other building blocks be priced on a nondiscriminatory basis.

According to MCI witness Don Laub, the starting point for MCI's proposal was the Table II price matrix filed by USWC, which specifies prices based on an equal percentage markup over cost and NAC deaveraging based on high, medium and low density zones. However, MCI did not adopt USWC's assumptions regarding demand shifts and competitive losses for several services. Also, rather than apply an equal percentage markup to USWC services, MCI's rate design recovers only the TSLRIC of non-competitive network functions. MCI also removed the margin obtained from high and medium density residential service from the markup calculation applied to all services.

MCI's rate design subtracts residential service revenues from the total amount of contribution received by USWC, and assigns an equal percentage to each of USWC's remaining retail services. For all monopoly building blocks except business NACs, an equal percentage is applied to the underlying cost unit. For business NACs, MCI calculated the total contribution attributed to business NACs as a group and marked up each of three different density NAC costs by an equal dollar amount. The equal dollar approach was used to ensure that rural business customers are not asked to recover a larger dollar amount of USWC indirect costs than are urban or suburban business customers.

Mr. Laub testified that MCI's proposed rate design is revenue neutral to USWC. His proposals yield flat business rates ranging from $22.58 in Zone 1 to $49.92 in Zone 3. Measured business rates are approximately $3.00 higher in each Zone. MCI proposes an intraLATA toll price of $0.0307 per minute.

Opposition to MCI, AT&T and ELI Pricing Proposals. United, GTE, USWC and Staff oppose TSLRIC pricing recommendations made by MCI, AT&T and ELI and advance the following arguments:

- Pricing building blocks at TSLRIC will result in a windfall for AECs while driving up rates for LEC retail customers. In order for a LEC to earn its revenue requirements, retail bundled services would be set on a residual basis to include recovery of all joint and common costs. In effect, LEC retail customers would subsidize the services offered by competitive providers.

- There is no incentive for competitors to invest in infrastructure if they can purchase LEC network functions at TSLRIC. This is particularly true if the costs faced by the incumbents and entrants are the same, as AT&T alleges. According to GTE, TSLRIC pricing shifts all of the business risks to the LECs, who then become little more than network construction companies for competitive providers.

- TSLRIC pricing does not reflect real world competitive markets and pricing realities. The LECs maintain that competition does not drive prices to TSLRIC in industries with common costs. Competitive markets generally exert pressure to move prices toward cost, but firms cannot remain in business unless joint and common costs are also

recovered. The competitors have not shown that they, or any other telecommunications firm, actually price services at TSLRIC.

- There is no evidence to show that TSLRIC pricing will translate into lower prices for customers served by competitive providers. USWC alleges that long distance rates have increased in interexchange markets even though access prices have declined.

- There is no evidence to support the claim made by ELI and AT&T that pricing building blocks above TSLRIC will stifle competition and guarantee high LEC earnings. United asserts that AT&T and MCI have not even prepared studies regarding their own incremental cost of production. Likewise, ELI has not performed any studies to determine the price at which competitive entry would be denied. USWC points out that IXCs have managed to compete successfully despite having to contribute to support of the local exchange network.

- TSLRIC pricing is inconsistent with the pricing standards in Section 252(d) of the Act, which require prices to be based on cost. GTE maintains that "cost" must include recovery of both direct and indirect (joint and common) costs; otherwise, a firm cannot recover its total cost and will fail. Although TSLRIC includes a cost of capital (or return) component, an additional contribution to joint and common costs is necessary if LECs are to be profitable.

- If interconnection building block prices are set at TSLRIC, prices for remaining LEC services will be so high they cannot be sustained for any length of time. A decision to mandate TSLRIC prices is therefore arbitrary and an unconstitutional taking.

United Rate Design. United's pricing proposal corresponds with its two-phase unbundling initiative. The proposal is designed to adjust prices to reflect competition by reducing artificially high contribution levels and sending more accurate pricing signals to the market. At the same time, United emphasizes that the implementation of unbundling and pricing proposals should take into account in the fact that competition will come more slowly to United's rural markets. It contends that a flash cut approach to unbundling and repricing would create severe rate impacts that are not in the public interest.

In Phase I, United recommends: (a) reducing special access [51](private line) rates to interstate levels, (b) unbundling the special access loop from channel performance, and; (c) restructuring switched local transport service to mirror the interstate LTR rate structure and approximate rate levels, without a residual interconnection charge.[52]

Also in Phase I, United proposed to merge special access and local private line tariffs to eliminate the distinction between local and intraexchange private line services. Merging these

[51]Special access services are the foundation for United's unbundling and pricing proposals. Special access transport prices become the actual switched transport prices for direct trunked transport. In addition, the special access NAC is the basis for the local transport entrance facility price and United's unbundled NAC offering.

[52]United would prefer to reduce intrastate access rates to current interstate levels (without an RIC), but to do so would reduce access revenues by $5M and cause residential rates to increase by over $8.00 per month. Instead, United proposes to reduce only special access and local transport services in Phase I, with the remaining access reduction and corresponding increase in local service revenues to occur in Phase II. United states that this approach moves access rates closer to cost, minimizes arbitrage opportunities and imposes like charges for like services.

two tariffs will result in a slight increase for local private line customers. United also proposes term discounts in its special access tariff for customers purchasing for an extended period. In Phase I, special access rates are reduced 41 percent, switched access rates decline by approximately 12 percent and local rates increase by 14 percent. Residential local rates would increase by $2.56 per month.

United's LTR initiative unbundles local transport into the same rate elements included in the USWC and GTE LTR proposals. United notes that LTR, together with collocation, effectively unbundles transport from end office switching, and provides customers with a choice of purchasing or self-provisioning transport services. However, the high contribution margins in current access rates also provide customers with an incentive to avoid these costs. As a result, United proposes to reduce special access and transport rates and recover this contribution from residential exchange services. United's intrastate LTR deviates from interstate price levels in two respects: (a) it does not include a RIC and (b) exceeds the current interstate tandem switching price.[53] Implementation of United's LTR proposal would reduce transport revenues by $1.1M.

In addition to merging local private line service with special access service, United proposes the following changes for local service in Phase I:

- Increase the flat fee portion and reduce the measured portion of local measured service to better align these rates with underlying costs;

- Reduce the measured EAS rate from $0.08 per minute to $0.06 per minute to better align it with local measured rates and maintain consistency with reductions in transport access rates;

- Reduce PAL rates to the level of measured business service rates to eliminate the existing use and user distinction.

- Merge off-premises stations/extensions into the private line tariff because they are equivalent services;

- Increase residential exchange rates to absorb all of the Phase I pricing changes noted above. This causes residential service rates to increase from $13.43 to $15.99, an increase of $2.56 per month. United alleges that the increase is necessary because residential service is currently priced 11.37 percent below the TSLRIC of that service.[54] Also, increasing the residential rate narrows the gap between residential and business rates, a distinction United contends cannot be sustained in a competitive marketplace.

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[53]United notes that a RIC would perpetuate the current practice of obtaining high contribution from access services. Also, since the RIC is not associated with any specific network function, it has no associated incremental cost. The tandem switching price has been increased to cover cost and produce approximately the same contribution as other rate elements.

[54]United observes that all of its proposed Phase I prices, with the exception of residential service, pass the imputation test set forth in Order No. 94-1851. The proposed $15.99 residential rate covers volume sensitive cost, but not TSLRIC.

- Price unbundled NACs at private line rates. For a two-wire loop, the price would be $18 per month, which United claims will produce a 25 percent margin over TSLRIC. As part of its proposal, United will seek waivers from the FCC to allow United to bill AECs for the federal SLC and the CCLC when unbundled NACs are purchased. The latter proposal is consistent with the Staff recommendation noted above.

United proposes to implement Phase II approximately one year after Phase I. As with Phase I, unbundling and repricing would be on a revenue neutral basis. United proposes the following changes in Phase II:

- Reduce switched access rates to interstate levels, producing a revenue reduction of $3.4M or 41 percent.

- Implement a corresponding increase in residential service rates of approximately $6.00 per line, if spread equally across all lines. Deaveraging could result in increases of much greater magnitude.

- Deaverage basic local service rates, provided market conditions warrant and a universal service fund has been established. See Issue IV.

- Eliminate use and user restrictions, including the business/residential service distinction. The combined service would be priced at $20.20 or $46.23, consistent with United's two-zone deaveraging proposal.[55]

- Offer lineside port service, including a flat monthly fee to recover the fixed cost of the port and a measured, per minute of use charge to recover the usage cost associated with switching local calls. The usage rate for lineside ports should equal the usage rate for local measured services, since the two services are functionally equivalent. The flat fee portion would be priced to cover TSLRIC and provide a contribution.

- Further reduce EAS and local measured service rates, consistent with the reductions made in Phase I.

GTE Rate Design Proposal. GTE states that telecommunications pricing, and, indeed, the pricing of all products and services, has three fundamental purposes: (a) to generate revenues sufficient to cover the costs of the firm; (b) to distribute the recovery of costs among customers; and (c) to create economic incentives to align production and consumption decisions. Pricing policy should enhance economic efficiency, financial viability, affordable residential service, equitable competition, responsiveness to market conditions; administrative practicality and simplicity from the customer's standpoint. GTE advocates pricing that is market based, subsidy free and flexible enough to respond to market conditions.

GTE's proposal for switched access bifurcates the current end office switching rate element into originating and terminating elements that are priced the same. In addition, it proposes to deaverage end office switching, the CCLC, and the information surcharge into three zones and a ZonePlus structure. GTE intends to mirror the interstate CCLC, end office switching and information surcharge rates for Zone 3. Mirroring interstate rate levels will

[55]Other services affected by deaveraging are the private line NAC, local transport entrance facilities, and any basic local service using an access line.

facilitate tariff administration and reduce arbitrage and customer confusion. In addition, it proposes a 1.7 percent discount for Zone 2, a five percent discount for Zone 1 and a 25 percent discount for ZonePlus.

With respect to its LTR proposal, GTE recommends mirroring the interstate rates for the entrance facility, direct trunked transport, and tandem switched transport, with two exceptions. The proposed DS1 Additional System and DS-voice multiplexing rate elements are priced at cost because the interstate rates are not compensatory. Also, GTE does not propose to charge a RIC at the intrastate level. GTE argues that it is inappropriate to create a new non-cost based rate element to exact contribution, particularly since transport is the LEC access service that is most vulnerable to competition in the near term. It does to propose maintain the CCLC rate element for the intrastate jurisdiction, but recommends transitioning it to other rate elements after one year to correspond with implementation of the universal service plan in docket UM 731. This approach is intended to lessen the rate impact on local residential customers.[56] GTE's LTR rate design would produce an average switched access rate of approximately $0.0316 per minute. This compares to the current average rate of $0.0538 per access minute.

As noted above, GTE's deaveraged rate design for intraLATA toll incorporates peak and off-peak usage rates, along with various toll discounts based on toll usage volumes and length of service commitments. This structure would replace the company's current distance sensitive and three-period structures and eliminate existing discount calling plans.[57] The existing five mileage bands, although retained in their current form, would have the same price per minute of use for all intraLATA toll calling. GTE's proposed peak period would be from 7:00 a.m. to 7:00 p.m., Monday through Friday. The off peak period would include all other times plus Saturdays, Sundays and holidays. GTE recommends rates of $0.16 per peak minute and $0.10 per off peak minute. Customers entering into term commitments and those with high volume usage would receive discounts from these rates.

GTE's local service rates correspond with its redesigned toll structure, and include peak and off peak rates within two zones (home exchange and EAS). This structure replaces the company's current first minute/additional minute/three zone structure. Local minute of use rates would approximate the following:

	Peak	Off Peak
Zone 0 (Home Exchange)[58]	$.02	$.017
Zone 1 (EAS Exchanges)	$.05	$.04

In the future, GTE anticipates offering usage blocks at recurring monthly rates which vary depending on the type and/or combination of Zone usage selected. Minute of use charges would apply if a customer exceeded the pre-purchased block of time.

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[56]GTE emphasizes that artificial price mechanisms such as the CCLC and the RIC cannot be sustained in a competitive environment. Competition will inevitably force price levels toward TSLRIC.

[57]GTE's Between Friends Plan would continue to be offered but would be restructured so that it is available to both residential and business customers at lower rates.

[58]The Zone 0 per minute charge is based on the end office switching rate. Two end office switching charges are included in Zone 1 (EAS) rates.

GTE's proposal for deaveraged, unbundled NAC rates are $23.00 for the Urban exchange; $23.60 for the Suburban exchange, and $28.20 for the Rural exchange. The level of contribution above cost included in these rates is based on a comparison with bundled business rates and currently available unbundled special access (private line) rates. GTE's proposed port rates are $3.45 for Basic Exchange/PBX, Basic PAL, and PBX Ground Start ports and $5.80 for COPT ports. GTE's port rates are based on a uniform percentage markup over cost.

GTE's bundled local exchange rates vary from $11.50 to $21.50 for residential customers and from $19.00 to $35.00 for business customers. Current residential rates are $8.07 or $12.59 per month depending on calling plan chosen. Current business rates are set at $18.00 or $28.27. Premium rates for flat-rated EAS calling vary by exchange. GTE's proposed residential rates are designed to cover costs with the exception of the rural exchanges. Business rates are priced in relation to GTE's recommended prices for unbundled ports and loops. GTE does not propose to revise its existing rates for any of its vertical services (*i.e.,* switch features).

USWC Rate Design. USWC states that prices should reflect market conditions by maintaining an appropriate relationship to competitive alternatives, send appropriate economic signals to the market and cover relevant economic costs. USWC's rate design reduces switched access, toll and vertical service rates and increases rates for residential local service.

USWC recommends reducing switched access rates because that service carries very high contribution margins and is especially vulnerable to emerging competition. The company's switched access price proposal includes the following features:

- Local transport charges are restructured in the LTR and trunkside interconnection is introduced, consistent with the interstate rate structure. Switched access price changes would be implemented in 1996.

- Rates for transport and switching building blocks are priced consistent with other services using the same functionalities, producing an overall reduction in transport charges. Direct-trunked transport, entrance facilities[59] (NAC plus applicable channel performance), and multiplexers are priced equal to comparable private line services. Tandem switched transport rates are derived from direct trunked transport rates for DS1 and DS3 services. Transport prices are reduced by 59 percent, and transport revenues are reduced from $8M to $3M.[60]

- Local switching, tandem switching, and the CCLC are deaveraged and priced 25 percent lower in the urban areas of Portland, Salem and Eugene. The local switching charge for the Rural Zone is $0.008 per minute. The Urban Zone local switching price remains at $0.005999 per minute.

[59]USWC proposes to use deaveraged NAC prices for switched access entrance facilities.

[60]USWC recommends that initial rates for new transport elements be based on Oregon specific transport rates rather than on FCC Part 69 rules. Also, USWC does not propose introducing a RIC to bring restructured access revenues to a specified revenue level. Instead, the existing CCLC should be residually priced to produce the desired amount of access revenues. USWC recommends that future reductions in access rates should be accomplished by reducing the CCLC.

- The overall price level for switched access would be set according to the price reductions USWC would be obligated to take under existing switched access rules.

- Switched access rates are not based on product specific revenue requirements for local switching, local transport, and the CCLC.

USWC contemplates an overall 45 percent reduction in access prices from current levels, yielding an average price of 1.7 cents per switched access minute, or 1.5 cents in urban areas and 2.0 cents per minute in the rest of the State.

USWC's rate design for local service eliminates the business/residential rate differential by the year 2000 and produces prices of $20.75 per month in Zone 1 and $34.55 per month in Zone 2. USWC observes that 85 percent of its residential customers would have rates below the $25.00 benchmark established in docket UM 731. In addition, all complex business local exchange customers would receive a rate decrease. Business customers in Zone 1 receive a 41 percent decrease, while Zone 2 business customers would experience a $0.96 per month rate increase.

USWC's proposes a significant reduction in intraLATA toll rates from current levels. By the year 2000, toll rates would range from $0.07 per minute in very high density zones to $0.10 per minute in low density zones. USWC also states that the majority of features and CLASS services would experience substantial rate reductions.

Commission Findings and Decision, Issue V: Pricing, Markups, and Contribution

Based on the evidence and arguments presented, the Commission makes the following findings:

1. The pricing policies set forth in Order No. 94-1851 and on pages 62-63 of this order are reasonable and should be reaffirmed.

2. Consistent with our decision to unbundle LEC services, the Commission has established rates for the building blocks authorized in this proceeding. The building block rates are set forth in Appendix C. With limited exceptions, the rates include a contribution to joint and common costs.[61] The building block rates shall apply to USWC and GTE.[62] Both companies shall file compliance tariffs within 60 days of the date of this order. The effective date of the tariffs shall

[61]The building block prices are generally based on the LRIC estimates produced in Phase I plus applicable group related costs, and an additional contribution for recovery of joint and common costs. The Commission views the building block prices in Appendix C as interim in nature, and subject to change pending the outcome of UM 773, the LEC rate proceedings, and the FCC interconnection rulemaking. In addition, the Commission may elect to price certain network functions at TSLRIC or less to achieve specific public policy objectives. For example, we have already determined that interim number portability should be priced at TSLRIC. See Order No. 96-021 at 79.

[62]The cost information used to develop the building block prices in Appendix C is based on USWC data, but also applies to GTE until such time as that company develops alternative cost calculations using the costing principles adopted by the Commission. The decision to use USWC's cost data as a surrogate for other regulated utilities was approved in Order No. 93-1118. If GTE believes that its cost to provide any of the building blocks listed in Appendix C are significantly different from USWC's cost, GTE may make a filing to demonstrate that different costs and building block prices should be approved for it.

be 60 days after the tariff filing date. As noted above, United is not required to unbundle network functions at this time due to the exemption in Section 251(f)(1)of the Act.

The tariff prices charged by the LECs for existing bundled services are not changed by this order. The Commission will examine bundled service rates for USWC in docket UT 125. GTE shall submit an updated rate filing by January, 1997.

In addition, USWC and GTE have already filed tariffs for a number of building block services. Those tariffs are not changed by this order.

3. Several parties recommend that the Commission authorize significant increases in residential service rates. We decline to consider such an adjustment until the revenue requirement proceedings have concluded for USWC and GTE, the cost study update in docket UM 773 is complete, issues relating to universal service funding have been addressed in docket UM 731, and the FCC has issued rules to implement the Act. Once these matters have been resolved, the Commission will determine whether there is a need for a residential rate adjustment. In the event rate increases are required at some future point, we will attempt to adjust prices as gradually as possible to minimize customer rate shock. Resolution of universal service support issues will also be crucial to our continuing efforts to maintain affordable residential rate levels.

4. The building block services authorized in this order shall be available for purchase only by telecommunications carriers as defined in Section 3(a)(49) of the Act. This will limit the potential for LEC revenue erosion and still provide competitors with the building blocks necessary to compete with LEC bundled service offerings. The Commission will decide whether to make building blocks available to all customers once we have had an opportunity to review LEC rate levels in the forthcoming rate case proceedings.

5. Section 252(d) of the Act, requires, *inter alia,* that rates for network functions (*i.e.*, building blocks) shall be established without reference to rate of return or rate-based proceedings. At the same time, the Commission has a constitutional duty to set rates which provide public utility companies with an opportunity to earn a fair and reasonable return on investment. The Commission has endeavored to reconcile these requirements by establishing building block rates which include a contribution to LEC joint and common costs, but are not designed to meet a specific total company revenue requirement. The additional revenue required by USWC and GTE to realize their respective overall revenue requirements should be included in the markup of bundled services.

6. The building block rates in Appendix C are designed to: (a) maintain a reasonable relationship between the cost of supplying a building block and the price charged for that function; and (b) minimize revenue shifts that would result from setting building block rates at levels which would substantially undercut existing LEC bundled service prices. To achieve the first objective, we have attempted to constrain building block prices to levels that do not exceed a reasonable markup over cost.[63] To achieve the second, we have authorized different building block markups when we determined that unreasonable rate shifts would otherwise occur. The Commission is persuaded that the building block rates, together with the other pricing decisions

[63]The Commission cannot reveal the precise relationship of building block prices to cost without indirectly disclosing the costs themselves. LEC cost information has been designated confidential and is subject to the protective order issued in this case.

we have made in this order, will generate overall rate levels that provide the LECs with a reasonable opportunity to recover the total cost of providing utility service.

In developing the building block rates in Appendix C, we have attempted to minimize pricing distortions and significant adverse impacts on LECs and their customers. It is possible, however, that the new building block rates may produce pricing anomalies or other consequences that we cannot foresee. In that event, we expect the LECs, Staff or other interested persons to bring the matter to our attention for reconsideration.

The Commission also recognizes that LEC building block and bundled service prices may need to be adjusted as a result of the LEC rate proceedings and the cost investigation in UM 773. We do not believe, however, that the pricing decisions in this order will cause substantial revenue erosion prior to the time LEC rates are reexamined, for several reasons. First, the building block rates we have authorized include a contribution to joint and common costs. These rates should enable competitors to assemble competitively priced services, but should not permit them to substantially undercut LEC bundled service prices. Second, in Order No. 96-021, we recently concluded that competition in the local exchange market will take time to develop and will likely not have a significant financial impact on LECs in the near term. Third, we believe that competitors are unlikely to offer drastic price reductions in their efforts to obtain greater market share. Rational pricing behavior suggests that market prices will be adjusted gradually, rather than in substantial increments. Finally, the evidence presented in this case pertaining to the high capacity dedicated service market shows that a decline in market share due to competition does not automatically translate into revenue loss. Indeed, USWC's experience has been exactly the opposite.

In the event that competition does significantly affect LEC revenue, USWC and GTE may seek interim rate relief pursuant to ORS 759.185. The LECs may also petition the Commission for changes in building block prices upon a showing that market conditions or other relevant considerations justify such revisions.

7. The Commission finds that, as a general proposition, building block rates should be set at a level that enables a LEC to recover the TSLRIC of the building block plus a reasonable contribution to joint and common costs. As explained elsewhere in this order, the cost structure of virtually all firms includes both direct and indirect (joint and common) costs. If all prices were set at TSLRIC, a LEC would not recover its total cost and, therefore, could not remain financially viable. The record in this case discloses that joint and common costs comprise a substantial percentage of LEC total cost.

Proponents of TSLRIC pricing argue that including a contribution to joint and common costs in building block rates will impede competition by increasing the economic price floor. In other words, competitors that purchase building blocks will have to pay not only their own joint and common costs, but also a portion of the LEC's indirect costs. This result, it is argued, will raise the cost of telecommunications services generally and insulate the LECs from competition.

We acknowledge that including contribution in building block rates will raise the overall price floor for telecommunications services in the near term. At the same time, we share the concern expressed by Staff and the LECs that pricing building blocks at TSLRIC will shift the contribution burden to basic service customers. If carriers are able to purchase building blocks at TSLRIC as AT&T, ELI and MCI recommend, then LEC shared costs must be recovered entirely through markups in bundled service prices. Carriers will have a significant incentive to substitute building blocks for LEC bundled services in order to avoid paying contribution, leaving

basic service customers to pay the bulk of LEC joint and common costs. Absent a significant reduction in LEC revenue requirement, this will translate into substantial rate increases for LEC residential and business service customers.

Proponents of TSLRIC pricing also contend that it mirrors competitive markets because effective competition eventually forces prices to cost. The Commission agrees that competition will drive prices *toward* the incremental cost of production. We also recognize that including contribution in building block rates may also shield LECs from some of the pressure they might experience in a fully competitive marketplace. However, the telecommunications market is still in transition from a monopoly environment. As competition for access and exchange service increases, the market will dictate lower markups and less contribution for building blocks, particularly interconnection building blocks.

Moreover, as public utilities, LECs retain regulatory responsibilities that are not shared by other telecommunications providers. As competition expands, less regulatory oversight will be necessary and LECs will have greater freedom. Indeed, the advent of effective competition in telecommunications markets should substantially reduce the need for rate of return regulation.[64] Until that time, our decision to include contribution in building block rates will provide LECs with a reasonable opportunity to recover both the direct and indirect costs of providing telecommunications service.

8. In those cases where the LEC currently offers building blocks but no cost estimates have been developed, the Commission has used the existing tariff rates as the appropriate building block price. For other building blocks, we were unable to establish prices because the cost for those network functions have not yet been determined and the building blocks are not currently offered. We expect that costs for these building blocks will be developed in docket UM 773. Once those building block costs are approved, USWC and GTE shall file tariffs containing proposed prices for those building blocks. The proposed prices should be consistent with the average markup approved for other building blocks in the same category.

9. The Commission anticipates that the cost for certain building blocks may change as a result of determinations made in UM 773. USWC and GTE shall petition to change a building block rate if the building block volume sensitive cost developed for that same building block in UM 773 is greater than the rate set forth in Appendix C. The revised rate proposed by the LEC should include a markup over cost that is comparable to the average markup for building blocks in the same category.

Similarly, if a building block cost determined in docket UM 773 is less than half the rate for that building block established in this proceeding, the LEC shall file a tariff prescribing a new lower rate or, alternatively, provide justification why the building block rate should not be reduced.

10. Order No. 94-1851 acknowledges that LECs should have pricing flexibility to meet competition. While underlying cost should be the foundation for pricing decisions, a variety of other factors are also important in determining the appropriate price. These factors include customer demand, the characteristics of the target market, overall product strategy, the

[64]Effective competition would change the manner in which utility rates are determined, but would probably not eliminate the need for rate review altogether. Continued regulatory oversight will be necessary to address a variety of other regulatory issues, such as service quality; universal service, and protection of customers who do not face effective alternatives in the telecommunications market.

availability of substitutes, customer ability/willingness to pay, etc. The Commission agrees with Staff that the level of LEC pricing flexibility should be a function of the degree to which the relevant market places constraints on LEC prices. If there are adequate alternatives in a particular market, LEC pricing flexibility is warranted. If on the other hand, the LEC has market power for a service, continued regulatory oversight is necessary to prevent discrimination and anticompetitive pricing.

LECs have substantial opportunities to obtain pricing flexibility under Oregon law. ORS 759.050 provides LECs with downward pricing flexibility for all services provided within competitive zones to respond to competition from alternative telecommunications providers. ORS 759.030 authorizes LECs to petition the Commission to price list or deregulate telecommunications services upon a requisite public interest showing. ORS 759.195 allows LECs to obtain pricing flexibility in conjunction with an alternative form of regulation. Finally, ORS 759.250 permits LECs to enter into special contract arrangements to respond to unique customer requirements or competitive conditions.

11. Because of our decision not to change bundled service prices pending the outcome of rate case proceedings for USWC and GTE, certain services will not pass an imputation test. For these services, the sum of the building blocks necessary to create the complete bundled service will exceed the LEC tariff rate now in effect. In other words, a price squeeze will exist for competitors that do not supply any facilities and seek to compete on a "pure resale" basis. The consequence, of course, is that "pure resale" of building block services will probably not occur for these services in the near term, absent a decision by a competitor to sell the service at a loss (*e.g.*, as part of a service package), or unless the required building blocks become available from another supplier at a lower price. Rather than purchasing unbundled building blocks, customers contemplating "pure resale" may find it more advantageous to resell bundled services purchased from wholesale tariffs that LECs must make available pursuant to Section 251(c)(4) of the Act. Wholesale/retail tariff issues are addressed in Issue VII.

On the other hand, the Commission believes that the building block rates in Appendix C should enable facilities-based providers to compete with the bundled services offered by the LECs. Because we do not have information regarding the financial structure, network architecture, or planned services of competitive providers, however, there is no way to predict the level of competition that will occur in the near term. These factors and others will determine the viability of competitive service offerings.

12. The Commission agrees with Staff that the LECs should be permitted to seek a waiver from the FCC to allow a LEC to charge AECs for the SLC and a flat rated CCLC when an AEC purchases an unbundled NAC. This approach will permit the LECs to recover embedded loop costs allocated to the interstate jurisdiction.

The Commission also finds that it is not necessary for LECs to impute the SLC or the CCLC. In the case of the SLC, LECs are required by the FCC to charge their residential and business customers for the same SLC that AECs will have to pay if they purchase an unbundled NAC. Since the SLC must already be included in the local service prices charged by the LECs, it is not necessary to make it part of the imputation test.

The flat rated CCLC presents a somewhat different situation. Currently, IXCs pay a CCLC on each terminating interstate access minute of use. A cost recovery problem arises if AECs purchase unbundled NACs without also purchasing LEC switching, because IXCs no longer pay the CCLC to the LEC for interstate minutes destined for AEC customers served by

resold LEC NACs. Charging the AEC a flat rate equivalent of the CCLC addresses the cost recovery problem, but not the imputation issue. On the one hand, because the flat rate CCLC is an input price that the AEC must pay for each NAC it buys from a LEC, it could reasonably be included in the imputed price floor. On the other hand, AECs are not required to recover their CCLC costs from their end user customers. They may, for example, decide to recover their CCLC costs from the IXCs by charging a CCLC on terminating access minutes. The fact that LECs must charge a per minute CCLC on terminating access minutes allows the AECs to do the same thing without being disadvantaged in the carrier access market. Because this option is available to the AECs, the Commission finds that a flat rated CCLC should not be included in the imputation analysis.

Issue VII: Use and User Restrictions/Resale

Use and user distinctions prevent customers who must pay higher rates from buying services under lower priced tariffs. Business customers, for example, are not permitted to purchase service under the residential tariff, even though the cost to provide business and residential service is basically the same. In a monopoly environment, use and user restrictions allow regulatory agencies to maintain rate stability, enhance universal service goals and pursue other public policy objectives by establishing price relationships that do not necessarily reflect the cost of providing service.

The advent of competition in telecommunications, however, makes it much more difficult to maintain price differences that are not cost based. As we noted in Order No. 90-920, the Commission must implement a regulatory framework that accommodates public policy goals without jeopardizing the development of new services or efficient use of the telecommunications network. To the extent that current pricing structures impose pricing inefficiencies, customers will use new technology or find other innovative ways to bypass the network. For example, IXCs are able to avoid contribution laden access charges by routing traffic onto LECs' networks via cellular carriers, who generally pay lower rates to interconnect with LECs. The parties to this docket generally acknowledge the problems associated with maintaining artificial price distinctions and recommend eventual elimination of use and user restrictions.

The issue of who may resell which LEC services to whom is closely related to use and user restrictions. As long as price differentials exist between customer classes, unrestricted resale provides opportunities for tariff arbitrage. For that reason, most parties agree that resale should be restricted until use and user restrictions are eliminated. Parties vary greatly on the degree of restriction they advocate, however. At issue is who should be able to purchase and resell unbundled, or building block, services as well as bundled, or finished, services.

Wholesale prices or volume discounts are another form of use and user restriction, in that they are available only to those who purchase a certain volume of services. The Act requires LECs to offer wholesale rates to carriers. Wholesale rates are defined as retail rates less avoided costs.[65]

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[65] Section 251(c)(4) provides:

> Resale.--The duty--
>
> (A) to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers; and
>
> (B) not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications service, except that a State commission may, consistent with regulations prescribed by the Commission under this section, prohibit a reseller that obtains at wholesale rates a telecommunications

Staff's position. *Use and User Restrictions.* Staff argues that the Commission should move toward eliminating use and user restrictions in order to improve economic efficiency, promote equity in rate structures, and encourage competitive entry based on cost rather than distortions introduced by tariffed rates. Staff's pricing proposal eliminates tariff distinctions and price differences for base rates between business and residential customers (excluding the effects of the SLC). Staff also proposes a single switching rate for all customers.

Staff recommends that certain use and user restrictions remain in place. First, Staff recommends that only AECs should be allowed to purchase building blocks until LEC rate levels can be reviewed. Staff suggests that this restriction will minimize the potential for LEC revenue erosion during the interim. Second, Staff recommends that the Commission retain residential service as a separate category in order to advance universal service goals.

Resale. Staff agrees resale prohibitions are a form of use and user restriction, and that effective competition will not develop unless competitors are allowed to resell building blocks as part of their service offerings. Staff therefore recommends that AECs should be allowed to resell building block services without restriction. It also recommends eliminating prohibitions on the resale of bundled services, but only after rates for these services are restructured in LEC rate cases, to correspond with the rates established for building block services.

Wholesale/retail distinction. Staff does not support adoption of wholesale and retail distinctions. Staff's pricing proposal starts by setting prices for building blocks and then basing rates for bundled services on the building block rates, in order to price on a consistent basis. Staff believes that this framework would reduce opportunities for tariff arbitrage and promote facilities based competition, although resellers of LEC services may constitute a limited exception to this policy.

Staff advocates deferring creation of wholesale discounts and resale of all LEC services to future dockets. Staff also recommends that the Commission initiate a proceeding to address operational interfaces and cost-based margins for wholesale services.

Effects of the Act: Staff believes that interim exceptions to the immediate elimination of all use and user restrictions are permissible under the Act, relying on Sections 251(e)(3) (preservation of state access regulations); 254(f) (state authority); 261(b) (existing state regulations). Staff maintains that its resale recommendations are consistent with the Act, including its proposal to restrict the sale of building blocks to AECs in the interim to protect LECs from revenue erosion. It advocates beginning with resale of unbundled building blocks and progressing to bundled services once LEC rates for those services have been rebalanced. Staff adheres to its recommendation that residential customers should be separately identified for the purpose of providing those customers with a local exchange rate credit.

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service that is available at retail only to a category of subscribers from offering such service to a different category of subscribers.

Section 252(d)(3) Wholesale prices for telecommunications services. -- For purposes of section 251(c)(4), a State commission shall determine wholesale rates on the basis of retail rates charged to subscribers for the telecommunications service requested, excluding the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier.

Staff does not support the adoption of wholesale and retail rates, but acknowledges that lower rates may be appropriate for some resellers if they can show that LECs incur lower costs in selling services to them. Staff advocates a similar policy with respect to building blocks. The Act does not require wholesale rates for building blocks except where costs are avoided by the LEC in selling a service to customers. In the latter situation, the wholesale rates should be available to all customers who qualify, regardless of whether customer is a reseller or an end user.

Positions of the LECs. GTE: *Use and user restrictions.* GTE envisions removing classification distinctions between residential and business customers and between toll, access, and local services. If its pricing proposal is authorized, GTE's new unbundled loop and port services would not be subject to use and user restrictions. For the present, however, GTE supports retaining some use and user restrictions and conditions on resale until overall repricing and restructuring is implemented.

Wireless carriers. GTE notes that AT&T Wireless has requested to purchase unbundled services on the same basis as wireline carriers. It also seeks to obtain those services pursuant to tariffs rather than contracts, which is the current practice. GTE favors a rate structure that does not differentiate between types of customers, but observes that there may be legal problems with administering such a structure, because the FCC has jurisdiction over wireless carrier-LEC interconnection arrangements and has required LECs to negotiate interconnection rates and arrangements with wireless carriers even if services would otherwise be provided pursuant to tariff.

Resale. GTE argues that mandated flat rate services should not be resold and that residential service should not be available for purchase by business customers so long as residence and business classifications are maintained.

GTE opposes ELI's proposal to allow AECs to buy and resell building blocks with no restrictions. Under that proposal, a LEC would have to sell a package of building blocks to an AEC at a price below the rate the LEC charges for a comparable private line service. The AEC could then resell the reassembled building blocks to IXCs and enable them to avoid LEC access charges.

GTE argues that the Commission should reject Staff's proposal to restrict the sale of building block services to AECs, because it does not represent a proper balance between regulation and competition as contemplated by ORS 759.015. GTE also contends that revenue neutral rate rebalancing must precede unbundling and resale.

Wholesale/retail distinction. GTE urges the Commission not to create a new class of wholesale local services. Instead, GTE proposes a model rate design with wholesale opportunities through volume pricing features.

Effects of the Act. GTE argues that, in view of the Act's resale and wholesale discount provisions, the Commission should not create extensive retail unbundled services. The Act and the competitive zone law only require that unbundled services be offered to other carriers. Neither law requires these unbundled services to be offered by tariff, only intercompany negotiations. If the Commission ordered unbundled services by tariff as retail services and set the prices at incremental cost, competing carriers could obtain those unbundled services at a further discounted price under wholesale provisions. The Commission should avoid this outcome by minimizing mandated tariff unbundling, by preceding unbundling with overall rate

rebalancing, and by setting unbundled service prices above incremental cost so they make a reasonable contribution to common costs and do not create unconstitutional pricing relationships and revenue impacts.

GTE maintains that no wholesale discounts can be ordered in this proceeding. The Act requires resale to carriers at wholesale only on request and negotiation. The competitive zone law authorizes unbundling of essential local exchange network functions but grants the Commission no power to mandate wholesale discounts. Moreover, GTE argues that there is no evidence to support any particular wholesale discount rate for a particular service provided to a specific carrier by a specific LEC.

USWC: *Use and user restrictions.* USWC states that use and user restrictions will eventually have to be eliminated, but asserts that complete elimination is not practical until rates for all services and building blocks are realigned with costs and rate subsidies are eliminated. The potential for revenue erosion and tariff arbitrage make removal of use and user restrictions impossible in the near term.

Wireless carriers. USWC also argues that similarly situated interconnecting entities should be treated the same, but in the short term, some use and user restrictions will continue for wireless carriers. There is no evidence in this docket that wireless interconnectors place the same types of costs on LECs as other carriers.

Resale. USWC contends that resold services should be priced above ADSRC, and that residential service should not be resold as business service as long as it is priced differently. Other carriers should not be able to resell USWC exchange services bundled with their interLATA long distance services until USWC can do the same. USWC notes that IXCs can gain a competitive advantage by bundling interLATA services with resold local services and locking up the most lucrative customers. USWC also argues that other carriers should not be allowed to avoid payment of access charges by delivering traffic to USWC through resale of exchange services.[66]

Wholesale/retail distinction. USWC argues that the Commission should not create separate wholesale and retail offerings. USWC also opposes AT&T's position that the Commission should permit resale for all LEC services and ensure that separately tariffed wholesale or bulk purchase services are offered by LECs in a manner that makes resale commercially feasible. USWC asserts that AT&T has offered no evidence regarding commercial feasibility and has not performed any studies to determine if LEC common overheads can be recovered through markups on retail services.

Effects of the Act: USWC notes that LECs may not prohibit or impose unreasonable restrictions on the resale of telecommunications services under the Act. However, USWC contends that there is not enough information in this record to make findings regarding resale of USWC's retail services. USWC recommends that the Commission defer the resale of bundled services issue to another docket.

[66]GTE made a similar argument in its briefs. However, the Act lifts the restriction on GTE's participation in the interLATA market. Section 601 deals with the consent decrees generally. Section 601(a)(2) supersedes the GTE consent decree. The Act does not introduce a new set of restrictions on GTE's interLATA services in place of the consent decree. However, the Act does introduce new restrictions on the RBOCs. *See* Section 271.

United: *Use and user restrictions.* United also recommends that the Commission take steps to eliminate artificial use and user restrictions. However, because it may cause rate shock, this process should be undertaken over time and in conjunction with LEC rate rebalancing.

Resale. United agrees with Staff that the Commission should prohibit tariff arbitrage. It notes, however, that Staff's recommendation to unbundle building blocks prior to repricing bundled services would create an arbitrage situation, because of the radical price reductions Staff proposes for vertical services relative to current tariff levels.

United argues that the Commission should eliminate resale restrictions gradually, as pricing anomalies are corrected. It also asserts that resale is an important element in the development of competitive markets. If certain building blocks are essential, then competitors must be able to resell them as part of a bundled service, or there will be no competition. Also, resale provides a means for new entrants to establish themselves in the market and serve customers in a broad geographic area before they have built out their network. United notes that the FCC has found resale to be an effective mechanism to prevent dominant firms from restricting competition by maintaining below cost prices, but United believes that more vigorous competition will develop with policies that also encourage facilities based competition.

Wholesale/retail distinction. United argues that the Commission should not create separate wholesale and retail services or prices. It contends that there is no record to support AT&T's assertion that retail costs can be avoided. Supplying service to resellers could also create additional costs that might not be offset by avoided costs. For example, AT&T demands that LECs provide automated interfaces for service ordering, trouble reporting and resolution, directory listing updates, electronic notification of planned outages, and online access to local usage data for end user customers. If these services are not made available, AT&T seeks further wholesale rate discounts. United maintains that such discounts are inappropriate and notes that on cross examination, AT&T conceded that increased costs should be included in the TSLRIC studies determining the difference between wholesale and retail operations.

United also argues that wholesale/retail margins may vary greatly among companies and retail services. A single discount factor, such as the 25 percent discount AT&T has proposed, may also upset any implicit subsidies that have been retained for public policy reasons. Furthermore, wholesale discounts are inconsistent with past FCC policy. In the early 1980s, the FCC developed a resale policy without adopting any of the policies advocated by AT&T.

United contends that AT&T's proposed wholesale discount will discourage facilities based competition, because it creates an incentive for new entrants to simply resell existing services and facilities. Deep discounts could also lead to economically inefficient entry decisions and misallocation of resources. Also, if the incumbent LEC faces competition only from resellers, it has no incentive to reduce retail prices, since reductions will be reflected in lower wholesale rates. It may even have an economic incentive to raise retail rates to maximize the margin on wholesale offerings.

Effects of the Act: United observes that rural LECs are not required to provide wholesale discounts until a bona fide request is received pursuant to Section 251(f). United recommends that the Commission open a separate docket to examine resale pricing to see whether any costs can be avoided and, if so, whether the wholesale discounts that apply in urban areas are also appropriate for rural LECs.

Positions of the Intervenors. AT&T: *Use and user restrictions.* AT&T does not object to prohibiting resale of residential local exchange service to business customers until such time as LEC prices are realigned.

Resale. AT&T argues that all providers should be permitted to resell LEC services. AT&T believes that resale will accelerate competition for local exchange services and will offer consumers expanded choices. It recommends that LECs remove all existing resale restrictions in their tariffs, including those on business and residential flat rate and measured local exchange service, Centrex, ISDN, vertical services, local usage, EAS, and intraLATA toll. It supports Staff's recommendation to allow AECs to resell building blocks at the conclusion of this docket.

AT&T supports Staff's proposal to convene a proceeding to examine resale of bundled services, provided the proceeding is initiated and concluded quickly. The scope of such a proceeding should be limited to setting cost based rate levels for wholesale services and establishing the necessary operational interfaces that must be in place between LECs and their reseller customers. AT&T contends that LECs must provide automated interfaces for service ordering, trouble reporting and resolution. Resellers should also be able to perform directory listing updates for customers in the LEC's directory database and be notified of unplanned network outages via electronic means. Finally, resellers must have timely on-line access to local usage data for their end user customers. If these requirements are not available to resellers on a transitional basis, AT&T argues that the margin between LEC wholesale and retail rates must be increased to compensate resellers for increased costs and diminished service quality.

AT&T claims that unbundling alone is insufficient to establish viable local service competition in Oregon. It disputes Staff's claim that competitor providers will be able to assemble competitive local exchange service offerings using the building blocks that Staff has proposed in this docket. According to AT&T, Staff's unbundling and pricing proposal creates a price squeeze for competitors because some unbundled components may not be purchased on a flat rate basis. As a result, competitors cannot compete with LEC flat rate service offerings.

Wholesale/retail distinction. AT&T advocates a pricing policy that distinguishes between wholesale services purchased by competitive providers and retail services bought by end users. The Commission should ensure that separately tariffed wholesale or bulk purchase services are offered by LECs in a manner that makes resale commercially feasible. The differential between wholesale and retail should be cost based and reflect LEC avoided costs. AT&T asks the Commission to order Staff to perform a study of avoided retail costs.

Effects of the Act. AT&T points out that, except for limiting the purchase of residential retail services to residential customers, the Act mandates unrestricted resale of LEC services. Section 252(d)(3) of the Act requires wholesale rates to be established for bundled retail services. To expedite this process, AT&T recommends an interim wholesale rate which includes 25 percent discount from existing LEC retail rates. The interim rate would apply to USWC and GTE, and would be effective with the order in this docket.

AT&T Wireless: *Use and user restrictions.* AT&T Wireless urges the Commission to eliminate all use and user restrictions and direct LECs to treat wireless and wireline carriers equally for interconnection purposes. AT&T Wireless maintains that the price matrices filed by USWC show that wireless carriers purchase the same interconnection building blocks as

wireless carriers. Thus, a wireless carrier linking its mobile telephone switching office to a tandem should have access to the same network components and pay the same rates as those available to wireline carriers linking end offices to tandems in the landline network.

Contrary to the arguments raised by USWC, AT&T Wireless contends that the Commission has jurisdiction over the rates, terms, and conditions of a LEC's interconnection with a wireless entity. AT&T Wireless notes that its contract with USWC specifies that the rates, terms, and conditions are subject to modification by the Commission.

Effect of the Act. AT&T Wireless argues that Staff's proposal to make unbundled building blocks available only to AECs for an interim period is contrary to purposes of the Act. Sections 251(c)(2)(D) and (c)(3) require that interconnection and access to unbundled services be afforded to any telecommunications carrier on a nondiscriminatory basis. Section 252(i) further provides that incumbent LEC interconnection, service, or network elements provided under agreement with one carrier must be provided on the same terms and conditions to other requesting carriers.

ELI: *Use and user restrictions.* ELI argues that existing use and user restrictions for resale of bundled local exchange services should remain in place until the Commission fully investigates the issues surrounding resale of bundled services.

Resale. ELI recommends that the LECs file a separate tariff containing prices, terms, and conditions for interconnection building blocks necessary to provide competitive local exchange services. Purchase of the interconnection building blocks from this tariff should be limited to competitive telecommunications service providers authorized by the Commission to provide intraexchange switched services. No resale restrictions should apply to the interconnection building blocks.

ELI disagrees with USWC that end user customers will take advantage of tariff arbitrage opportunities by becoming AECs. The process of becoming a certificated carrier requires substantial time and effort. Moreover, the ordering and provisioning processes for unbundled building blocks are likely to require sophisticated systems on any competitor's part.

Wholesale/retail distinction. ELI argues that creation of a wholesale and retail framework is essential for the development of competition. Competitive providers must purchase essential building blocks from LECs to provide retail local exchange services. Wholesale rates are part of the direct costs for providing those retail services. According to ELI, there is a sound economic basis for a cost based margin between the prices a LEC charges to end user customers and the prices it charges to other carriers.

Effects of the Act. ELI agrees with AT&T that the Commission should establish interim wholesale rates for bundled retail services, incorporating the 25 percent discount recommended by AT&T.

ETI: *Use and user restrictions.* ETI contends that there should be no use and user restrictions that prevent resellers from purchasing building blocks.

Resale. ETI stresses the importance of resale, arguing that it creates consumer options, causes downward pressure on LEC overhead costs and rates, generates increased sales for LECs, and results in personalized treatment for end users.

Wholesale/retail distinction. ETI agrees with AT&T that recurring costs and startup costs associated with providing wholesale service should be recovered in the rates charged to resellers. LECs should be required to develop wholesale rates for bundled and unbundled services equal to retail rates minus avoided retail costs. ETI urges the Commission to undertake a study to develop wholesale rates.

MCI: *Use and user restrictions.* MCI recommends eliminating all use and user restrictions but two. First, MCI recommends different rates for interconnectors than for purchasers of retail services. Otherwise, customers who should be paying rates that recover the indirect costs of the firm could buy interconnection services instead and avoid the higher retail rates. Second, MCI argues that resale of residential local exchange service be limited to residential users as long as there is a need for a universal service fund.

Resale. MCI supports Staff's position that building blocks should be tariffed for purchase by new competitive providers of local exchange service at the conclusion of this docket. MCI also supports Staff's position that AECs be allowed to resell all LEC building blocks without restrictions. Building blocks are of little use to competitive providers if they cannot use those functionalities of the LEC network in their service offerings.

OCTA: *Use and user restrictions.* OCTA encourages the Commission to eliminate all resale restrictions as matter of policy, except for limiting purchase of residential services to residential customers.

Resale. OCTA supports Staff's recommendation to allow resale of building blocks by AECs at the conclusion of this docket. OCTA believes resale is necessary to aid the transition to competition and will encourage competitive entry without harm to incumbent LECs. It argues that resellers should be offered flat rates, not usage based rates, for building blocks and services. Most of the valued services the LECs currently offer are flat rated. To make inroads into the market, new entrants must also be able to offer flat services.

OCTA opposes USWC's proposal to limit resale until USWC can offer interLATA services. It contends that USWC has not proven that financial harm or stranded investment will result from resale. USWC currently dominates virtually every market in which it offers service, including the intraLATA toll market. USWC has remained profitable despite the federal restrictions on interLATA toll.

Unicom: *Resale.* In its brief, Unicom argues that resale is necessary for competition to spread throughout the state, not just within the Portland area. The current pricing structure for Centrex Plus surcharge of $5.40 per line on resale discourages competition. The surcharge is placed on resellers for assuming the billing, collections, and customer service responsibilities from USWC. Unicom argues that the reseller should receive a credit for reducing these LEC costs. In addition, the cost of the first 50 Centrex Plus lines greatly exceeds the LEC's retail price for business lines, precluding resale to residential customers. Unicom urges that a mechanism must be created to allow residential customers to benefit from competition. Pricing for resale must be cost based and generate an adequate return for the reseller.

Effects of the Act. Unicom notes that the Act requires incumbent LECs to permit resale of all retail end user offerings at wholesale rates that reflect costs avoided from retail. Such service resale is a useful option for some carriers in some instances but will not generate robust local service competition. If new entrants are forced to rely solely on LEC retail offerings to

provide competing local exchange service in areas where they do not have facilities, the entrants will be severely limited in their ability to design competitive service offerings.

Congress made both finished service resale and unbundled piece parts available to new entrants. The Commission should make clear in its rules that the "avoided cost" approach to pricing applies only to resale of retail end user offerings (Section 251(c)(4)) and not to carrier purchase of unbundled network elements.

Shared Communications Services, Inc., filed comments regarding the effects of the Act. It notes that the Commission's ability to restrict resale is largely foreclosed by the Act. To comply with the Act, the Commission should adopt a resale policy that encourages resale of all local exchange services at a wholesale rates and removes discriminatory barriers to resale, including the current surcharge on the purchase of Centrex Plus for resale adopted in docket UM 650.

Commission Findings and Decision, Issue VII: Use and User Restrictions/Resale

Based on the preponderance of evidence in the record and the arguments presented, the Commission makes the following findings:

Use and user restrictions. The Commission agrees with the parties that use and user restrictions should eventually be eliminated. That goal is consistent with our move toward cost based pricing in a more competitive telecommunications environment. For the time being, however, the Commission will retain residential local exchange service as a separate service category, in order to advance universal service goals, limit the potential for tariff arbitrage and revenue erosion. Retaining a residential-business distinction is also consistent with FCC tariffs, which currently require LECs to charge a lower SLC for residential service.

Accordingly, the Commission finds that flat rated residential service may only be sold to residential end user customers or to telecommunications carriers who resell residential service to residential end user customers. This policy is consistent with Section 251(c)(4)(B) of the Act, which authorizes State commissions to prohibit the resale of residential service at wholesale rates to a different category of subscribers.

We also find that the proposal to limit the purchase of building blocks to AECs for an interim period is inconsistent with the Act. Section 251 provides that network elements shall be made available to all telecommunications carriers. As noted elsewhere in this order, Section 3(a)(49) of the Act defines telecommunications carrier to includes any provider of telecommunications services, except aggregators of such services.[67] We believe that restricting the availability of building blocks to AECs would also be incompatible with the procompetitive policy underlying the Act. The Commission therefore finds that any telecommunications carrier may purchase the building blocks we have authorized in this order. We interpret the definition of telecommunications carriers to include wireless carriers.

Resale. Carriers who purchase building blocks may resell them without restriction. This position is consistent with Section 251(c)(3) of the Act, which contemplates that

[67] Section 226(a)(2) provides: The term "aggregator" means any person that, in the course of its operations, makes telephones available to the public or to transient users of its premises, for interstate telephone calls using a provider of operator services.

telecommunications carriers may purchase network elements and combine them to create telecommunications services which are then resold to end user customers. It is also consistent with our policy of fostering competition and promoting the other goals articulated in the Pricing section of this order.

The Commission finds that the limitation on flat rated residential resale should be lifted only when the sum of the building blocks used to provide flat rated business service is less than or equal to the residential service rate. This approach will prevent the tariff arbitrage that would be caused by purchasing lower priced residential service and reselling it to business customers at a price less than the current LEC business tariff rate. Except for residential service, all bundled telecommunications services are subject to resale. This approach is consistent with Section 251(b)(1) of the Act, which imposes a duty on all local exchange carriers "not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of telecommunications services."[68]

Included in the group of services subject to resale are certain services that do not pass the imputation test, such as Centrex. That is, the sum of the building blocks needed to assemble an equivalent service is more than the current tariff price for Centrex service. The Commission finds that Centrex prices should be reexamined during the forthcoming LEC rate proceedings, including the reasonableness of the surcharge approved in UM 650.

AT&T urges that the LECs must provide services to resellers in a commercially feasible way, and must comply with a number of technical requirements. Section 251(c)(2)(C) of the Act imposes on all LECs the duty to provide interconnection at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate, or any other party to which the carrier provides interconnection. We believe that this mandate, coupled with the negotiation and arbitration provisions in Section 252 of the Act, should meet AT&T's concerns.

USWC urges us not to authorize unrestricted resale of local telecommunications service until BOCs are permitted to compete in the interLATA long distance market. Section 271(c)(2)(B) of the Act sets out a checklist of 14 access and interconnection requirements that the BOC must meet in each state before they may provide interLATA services. Further, they must either be providing access and interconnection under an agreement with a facilities based competitor or, if a BOC has received no interconnection request within a certain time, the State commission must approve a statement of the terms and conditions it generally offers to provide access and interconnection. Once USWC fulfills these conditions, it will be allowed to compete in the interLATA long distance market. We are not persuaded that USWC will suffer significant harm under the resale provisions we have authorized.

Wholesale/retail distinction. Sections 251(c)(4)(A) and (B) of the Act require LECs "to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail to subscribers who are not telecommunications carriers" and, with the exception noted above for residential service, "not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of such telecommunications service." According to Section 252(d)(3), wholesale prices for telecommunications services are to be determined on the basis of retail rates charged to subscribers for the telecommunications service requested,

[68]Section 3(a)(51) of the Act defines "telecommunications service" as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used."

excluding that portion of the retail rate attributable to marketing, billing, collection and other costs that would be avoided by the LEC.

The Commission agrees with the parties who maintain that the record in the current proceeding is insufficient to allow us to adopt wholesale rates in this docket. We are also concerned that avoidable costs may vary from service to service and from carrier to carrier, so that a single discount rate is not warranted at this time.

The FCC will promulgate regulations to implement the Act in August, 1996. Once those regulations are promulgated, we may require the LECs to file wholesale tariffs in compliance with the federal regulations. Alternatively, we may open a docket to determine the costs LECs avoid by wholesale offerings, and to set appropriate wholesale prices.

Issue VIII: Revenue Requirement

Under rate of return regulation, a regulated utility is entitled to an opportunity to recover its costs of service and earn a reasonable return on assets dedicated to utility service. The Commission determines a utility's revenue requirement based on its historical investment (rate base) times a rate of return, plus reasonable expenses. Currently, the Commission determines one intrastate revenue requirement for interexchange access services and a separate revenue requirement for all the remaining services, including local exchange service. We then develop rates for local and access services that capture their respective revenue requirements. The allocation of the LECs' total intrastate revenue requirement into local, EAS, and access/toll components is a remnant of traditional fully distributed cost ratemaking and does not allow for economically efficient and market based pricing. This method frequently causes rates for network functions, such as switching, to be different for local and access services.

Staff, GTE, USWC, and United argue in favor of a single revenue requirement. AT&T, ELI, and MCI argue that revenue requirements are obsolete in a competitive market, and that LECs should not be allowed to shift their competitive losses within the competitive zone to customers outside the zone to make up their revenue requirement.

Staff recommends that the Commission use a single intrastate revenue requirement for each LEC as the basis for setting all intrastate rates. Staff argues that the Commission should not allocate costs between interexchange access and local services when all services use the same underlying functions. Such allocations are a type of use and user restriction that should be eliminated as soon as possible.

If the Commission adopts a single revenue requirement for the LECs, Staff notes that the annual EAS filing made by LECs affected by new EAS routes will no longer be based on a separate revenue requirement. Staff has proposed basing EAS and toll rates on the same switching rates, so there would be no need to calculate a cost shift from intrastate toll/access to EAS and local service.

For LECs participating in the Oregon Customer Access Fund (OCAF) and LECs with fewer than 15,000 access lines, Staff recommends that the Commission consider adopting a single revenue requirement as part of the OCAF plan review. That review is scheduled to be completed by December 31, 1997.

GTE recommends that the Commission use a single revenue requirement for ratemaking purposes. It also emphasizes that the unbundling and repricing in this docket must be done on a revenue neutral basis.

GTE disputes the contention of ELI, MCI, and AT&T that this case represents the last time the Commission must concern itself with the LEC revenue requirement. GTE maintains that a single revenue requirement is simply a calculation of a LEC's total costs, plus a return. GTE contends that the Commission is still under a constitutional obligation to regulate LECs in a manner that provides them with a fair opportunity to recover costs and earn a reasonable return.

USWC also supports a single revenue requirement for intrastate services. This approach will allow greater flexibility in implementing the revenue neutral unbundling and deaveraging proposals in this docket and enable the Commission to respond to increasing competition for access services.

Like GTE, USWC argues that the creation of competitive zones does not relieve the Commission of its regulatory ratemaking obligation to provide incumbent LECs an opportunity to earn a reasonable return on their investment in Oregon intrastate operations. USWC argues that LECs will suffer revenue erosion in the competitive zones and should be allowed to shift contribution to services provided outside the zones in order to reverse the effects of decades of revenue requirement regulation. USWC also states that the Commission should require revenue neutral rate rebalancing at this time to provide LECs with an opportunity to earn a fair return.

United also supports implementation of a single intrastate revenue requirement. It states that such a policy can be accomplished by a revenue neutral filing made in conjunction with unbundling and the adoption of new pricing principles.

United argues that pricing tied to specific revenue requirements, such as EAS and access services, violates the pricing principles in Order No. 94-1851. Those principles can only be implemented in context of a single revenue requirement. Calculation of an overall revenue requirement remains necessary as long as rate of return regulation continues, however.

AT&T argues that the concept of a revenue requirement, like other vestiges of rate of return regulation, is obsolete in a competitive market. Customers without competitive alternatives, including IXC customers, should not have to guarantee revenue streams for LEC shareholders. The Commission should reexamine the revenue requirement concept in this docket and require parties to address alternative methods of establishing prices in future rate cases.

ELI argues that prices for telecommunications services should be set at a level that provides the LECs an overall opportunity to earn a reasonable rate of return, but that the concept of a revenue requirement should cease to apply as markets move from monopoly to competition. It asserts that the Commission should not insulate the LECs from competitive losses. The only purpose of a revenue requirement, ELI argues, is to protect LEC earnings by shifting contribution from customers who face competitive alternatives to those who do not. Pricing local interconnection building blocks at TSLRIC would prevent LECs from shifting their revenue requirement to competitors and establish a framework in which effective local exchange competition can develop.

MCI joins ELI and AT&T in asserting that the concept of a revenue requirement has become obsolete with the advent of local exchange competition. It recommends that the Commission set rates based on its rate design principles, using the idea of revenue neutrality for the last time. From that point forward, rates should be maintained in relation to cost. Once rates are set for LECs, the revenues they earn over time should depend on how well they respond to competition. Revenue rebalancing should not be allowed when competition forces prices down in certain markets or for certain services.

Commission Findings and Decision, Issue VIII: Revenue Requirement

Based on the preponderance of evidence and the arguments presented, the Commission makes the following findings:

We adopt a single revenue requirement for all of a LEC's intrastate services. The LECs' total intrastate revenue requirement shall no longer be allocated into local, EAS, and access/toll components. We agree with Staff and the LECs that a single revenue requirement will allow the Commission greater flexibility in setting rates for intrastate services. As we stated in Order No. 94-1851 at 7:

> We agree that the price matrices filed by the LECs should reflect a single revenue requirement. Eliminating the distinction between local and access revenue requirement is consistent with the unbundling process and allows the Commission to identify existing pricing distortions. The change will not affect total LEC revenue requirement.

A single revenue requirement will also allow rates to reflect underlying costs more accurately, a pricing principle articulated in Orders Nos. 90-920 at 14 and 94-1851 at 5 and adopted in the Pricing section of this order.

The Commission declines to rebalance LEC rates in this docket. Section 252(d) of the Act mandates that prices for interconnection and network elements shall be based on cost without reference to a rate of return or other rate based proceeding. To rebalance rates in a revenue neutral manner, we would have to set prices for network elements (building blocks) with reference to LEC revenue requirements, then adjust the prices of bundled services to account for price changes in network element rates. That approach would be inconsistent with the Act, however. Instead, we have decided to price building blocks to include a reasonable contribution above cost, but without reference to overall LEC revenue requirements. LEC bundled service prices, which are designed to meet existing revenue requirements, remain unchanged. Any rate rebalancing necessary for each LEC will occur in the context of a rate case.

For LECs participating in the Oregon Customer Access Fund (OCAF) and LECs with fewer than 15,000 access lines, we will consider adopting a single revenue requirement as part of the OCAF plan review. That review is scheduled to be completed by December 31, 1997.

AT&T, MCI, and ELI argue that the concept of a revenue requirement has no validity in a competitive environment. Revenue requirement calculation is necessary as long as LECs are subject to rate of return regulation. Although competition is emerging in telecommunications, we continue to have a constitutional obligation to regulate LECs in a manner that provides them a fair opportunity to recover their costs and earn a reasonable return. *Duquesne Light Co. v. Barasch*, 488 US 299, 310, 109 S Ct 609, 102 L Ed2d 646 (1989).

ORDER

IT IS ORDERED that:

1. The Public Utility Commission of Oregon has jurisdiction over this matter, including the unbundling determinations authorized herein, pursuant to Oregon Revised Statutes, Title 57, Chapters 756 and 759.

2. U S WEST Communications, Inc. and GTE Northwest Incorporated shall unbundle their existing telecommunications services into the building blocks listed in Appendix C of this order. U S WEST Communications, Inc. and GTE Northwest Incorporated shall also supply the additional building blocks set forth on pages 45-46 of this order within the time frame specified herein. United Telephone Company of the Northwest is exempt from the unbundling requirements in this order pursuant to Section 251(f) of. the Telecommunications Act of 1996.

3. The imputation and pricing policy principles in Order Nos. 90-920, 94-1851, and 95-313 are reaffirmed.

4. U S WEST Communications, Inc. and GTE Northwest Incorporated shall file tariffs specifying prices for each of the building block services set forth in Appendix C. The tariffs shall be filed within 60 days of the date of this order. The building block rates shall be effective 60 days after the tariffs are filed.

5. The building block services authorized in this order shall be available for purchase only by telecommunications carriers, as that term is defined in Section 3(a)(49) of the Telecommunications Act of 1996. Building block services may be resold by telecommunications carriers without restriction.

6. Bundled services offered by a LEC may be purchased for resale by telecommunications carriers, subject to the limitations specified herein. The Commission will consider development of wholesale tariffs for LEC services after the Federal Communications Commission issues rules to implement Section 251(d)(3) of the Telecommunications Act of 1996.

7. For ratemaking purposes, a single revenue requirement shall be used for all LEC intrastate services. LEC total intrastate revenue requirement shall no longer be allocated into local, EAS, and access/toll components.

Made, entered, and effective _____.

Roger Hamilton	**Ron Eachus**
Chairman	Commissioner

Joan H. Smith
Commissioner

A party may request rehearing or reconsideration of this order pursuant to ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-14-095. A copy of any such request must also be served on each party to the proceeding as provided by OAR 860-13-070(2). A party may appeal this order to a court pursuant to ORS 756.580.

APPENDIX A
Appearances at Hearing

Party	Representative
Commission Staff	W. Benny Won; Kimberly Cobrain
AT&T Communications of the Pacific Northwest, Inc.	Susan Proctor
AT&T Wireless Services, Inc.	Mark Trinchero; Patricia Raskin
Electric Lightwave, Inc.	Ellen Deutsch; Susan McAdams
Enhanced Telemanagement, Inc. (now Frontier Corp.)	Sara Siegler Miller
GTE Northwest, Inc.	Richard Potter
Oregon Cable Telecommunications Association	Sara Siegler Miller
MCI Telecommunications Corp.	Richard Levin; Roger Pena; Beth Kaye
United Telephone Company of the Northwest	Seth Lubin; Timothy Peters; Mary Tee
US West Communications, Inc.	Molly Hastings; Douglas Owens; Lisa Andrel

APPENDIX B

NETWORK ACCESS CHANNEL BUILDING BLOCKS		STAFF	USWC[69]	GTE[70]	UNITED[71]
1a	BASIC NAC	X		X[72]	X
1d	ISDN NAC	X	X		
1f	DS1 AND PRIMARY ISDN NAC	X	X	X[73]	X
1g	DS3 NAC	X	X		
10	JUMPER NAC DS0 (2-wire)	X			
100	JUMPER NAC DS1 (4-wire)	X			
1000	JUMPER NAC DS3 Electrical	X			
	JUMPER NAC DS3 Optical (Fiber)	X			
	DARK FIBER	X			
	USWC LIS LINK		X		
	56 Kbps FRAME RELAY NAC		X		
	1.544Mbps FRAME RELAY NAC		X		
	GTE - 2-wire SAL (Special access line)			X	
	GTE - 4-wire SAL			X	
	GTE - 2-wire digital loop			X	

NETWORK ACCESS CHANNEL BUILDING BLOCKS		STAFF	USWC	GTE	UNITED
2a	NACC DS0 SWITCHED LINESIDE	X			X
2b	NACC DS0 SWITCHED TRUNKSIDE	X			X
2c	NACC DS0 DEDICATED	X			X
2d	NACC DS1 SWITCHED LINESIDE	X			X
2e	NACC DS1 SWITCHED TRUNKSIDE	X			X
2f	NACC DS1 DEDICATED	X			X
2g	NACC DS3 DEDICATED	X			
2h	NACC ISDN	X			
2i	NACC FRAME RELAY	X			
2j	NACC SMDS	X			
3	NACC ISDN EXT (>18K')	X			
	USWC EICT[74] DS0		X		
	USWC EICT DS1		X		
	USWC EICT DS3		X		
	GTE Basic Exchange Port			X	
	GTE PAL Port			X	
	GTE PBX Ground Start Port			X	
	GTE COPT Port			X	
	UNITED - CENTREX DIGITAL	X			X

INTERCONNECTION BUILDING BLOCKS	STAFF	USWC	GTE	UNITED

[69] See Exhibit USWC/5.
[70] See Exhibit GTE/4.
[71] See Exhibit UNITED/3.
[72] See GTE's unbundled loop proposal, GTE/4, Dye/4.
[73] See GTE's unbundled loop proposal.
[74] USWC's EICT is a bundled service.

4a	DISTRIBUTING FRAME TERM 2-WIRE	X			
4b	DISTRIBUTING FRAME TERM 4-WIRE	X			
4c	FIBER OPTIC TERMINATION	X			
4d	CROSS CONNECTION DS0	X			
4e	CROSS CONNECTION DS1	X			
4f	CROSS CONNECTION DS3	X			
4g	CROSS CONNECTION OC-N	X			
4h	MULTIPLEXING DS1 TO DS0	X	X	X	X
4i	MULTIPLEXING DS3 TO DS1	X	X	X	X
11b4	DATA CHANNEL TERMINATING EQUIPMENT	X			

SWITCHING BUILDING BLOCKS		**STAFF**	**USWC[75]**	**GTE[76]**	**UNITED[77]**
5	TANDEM SWITCH PER MINUTE		X	X	X
6a	END OFFICE SWITCH PER MIN ORIG.		X	X	X
6b	END OFFICE SWITCH PER MIN TERM.		X	X	X
	END OFFICE SWITCH PER MIN INTRAOFFICE		X		

[75] Switching is available through USWC's Switched Access LTR but is separated only in rate design and not unbundled and offered separately.

[76] Switching elements are assumed to be part of GTE's LTR proposal. However, GTE has not filed in this case nor in any other docket specific LTR provisions. GTE's switching elements are also identified for rate design but are not unbundled.

[77] Switching elements are part of UNITED's LTR proposal in a manner similar to GTE and USWC and are not unbundled from the LTR service itself.

INTEROFFICE TRANSPORT BUILDING BLOCKS[78]		STAFF	USWC[79]	GTE[80]	UNITED[81]
7a1	TRANSPORT TERMINATION SWITCHED /0	X	X		
7a2	TRANSPORT TERMINATION SWITCHED /0-8	X	X	X	X
7a3	TRANSPORT TERMINATION SWITCHED /8-25	X	X		
7a4	TRANSPORT TERMINATION SWITCHED /25-50	X	X		
7a5	TRANSPORT TERMINATION SWITCHED /50+	X	X		
8a	TRANSPORT FACILITIES COMMON /0	X	X		
8b	TRANSPORT FACILITIES COMMON /0-8	X	X	X	X
8c	TRANSPORT FACILITIES COMMON /8-25	X	X		
8d	TRANSPORT FACILITIES COMMON /25-50	X	X		
8e	TRANSPORT FACILITIES COMMON /50+	X	X		
7b0	TRANSPORT TERMINATION DEDICATED DS0	X	X	X	X
7b1	TRANSPORT TERMINATION DEDICATED DS1	X	X	X	X
7b3	TRANSPORT TERMINATION DEDICATED DS3	X	X	X	X
8f0	TRANSPORT FAC DEDICATED DS0 /0	X	X		
8g0	TRANSPORT FAC DEDICATED DS0 /0-8	X	X	X	X
8h0	TRANSPORT FAC DEDICATED DS0 /8-25	X	X		
8i0	TRANSPORT FAC DEDICATED DS0 /25-50	X	X		
8j0	TRANSPORT FAC DEDICATED DS0 /50+	X	X		
8f1	TRANSPORT FAC DEDICATED DS1 /0	X	X		
8g1	TRANSPORT FAC DEDICATED DS1 /0-8	X	X	X	X
8h1	TRANSPORT FAC DEDICATED DS1 /8-25	X	X		
8i1	TRANSPORT FAC DEDICATED DS1 /25-50	X	X		
8j1	TRANSPORT FAC DEDICATED DS1 /50+	X	X		
8f3	TRANSPORT FAC DEDICATED DS3 /0	X	X		
8g3	TRANSPORT FAC DEDICATED DS3 /0-8	X	X		X
8h3	TRANSPORT FAC DEDICATED DS3 /8-25	X	X		
8i3	TRANSPORT FAC DEDICATED DS3 /25-50	X	X		
8j3	TRANSPORT FAC DEDICATED DS3 /50+	X	X		

[78] As indicated in Staff's testimony, Staff/13 Wolf/19, the LECs may desire to price interoffice transport based on other mileage bands or on an average basis. Staff supports this pricing flexibility as long as the rates are based on costs and pricing policies adopted by the Commission.

[79] USWC's Transport Building Blocks are LTR dependent and are not unbundled to the same level as proposed by Staff.

[80] Interoffice transport unbundling may be part of GTE's LTR proposal; however, GTE has given only a limited indication of the extent of unbundling it will propose.

[81] Transport is part of UNITED's LTR proposal. It is not known whether the elements will be made available on a building block basis.

SWITCH FEATURE BUILDING BLOCKS[82]		STAFF	USWC	GTE[83]	UNITED
10a	CALL WAITING	X	X	X	X
10b	CALL FORWARD BUSY LINE	X	X	X	X
10c	CALL FORWARD DON'T ANSWER	X	X	X	X
10d	CALL FORWARD BUSY / DON'T ANSWER	X	X	X	X
10e	CALL FORWARD VARIABLE	X	X	X	X
10f	SPEED CALL LONG	X	X	X	
10g	SPEED CALL SHORT	X	X	X	
10h	THREE WAY CALLING	X	X	X	X
10i	HUNTING	X	X		
10j	CALL TRANSFER	X	X		
10k	CALL HOLD	X	X		
10l	CALL PICK UP	X	X		
10m	DISTINCTIVE RINGING	X	X		
10n	HOT LINE	X	X		
10o	WARM LINE	X	X		
10p	CALLING NAME DELIVERY	X	X		
10q	CALLING NUMBER DELIVERY	X	X		
10r	CALLING NUMBER DELIVERY BLOCKING	X	X		
10s	CONTINUOUS REDIAL	X	X		
10t	CUSTOMER ORIGINATED TRACE	X	X		
10u	LAST CALL RETURN	X	X		
10v	PRIORITY CALLING	X	X		
10w	SELECTIVE CALL FORWARDING	X	X		
10x	SELECTIVE CALL REJECTION	X	X		
10y	CENTREX STANDARD FEATURES	X	X	X	X
10z	INTERCOM	X	X		
10aa	DIGITAL FACILITY INTERFACE	X	X		
15i	VOICE MESSAGING	X	X		
15j	CALL ANSWERING	X	X		

[82] The list of features may not encompass all the features offered by each of the LECs. All features should be unbundled.

[83] GTE's current list of tariffed features may or may not include all the elements listed below.

CHANNEL PERFORMANCE BUILDING BLOCKS[84]			STAFF	USWC	GTE[85]	UNITED	
11b1	CP	LS Control Status Channel	X	X			
11b2	CP	LS McCulloh Alarm-Type	X	X			
11b3	CP	LS DC Channel	X	X			
11b4	CP	LS Telegraph 0-75 Baud	X	X			
11b5	CP	LS Telegraph 0-150 Baud	X	X			
11b6	CP	LS McCulloh Bridging per Port	X	X			
11b7	CP	LS Telegraph Briding 0-75 Baud	X	X			
11b8	CP	VG Code Select Ringdown	X	X			
11b9	CP	VG Manual Ringdown	X	X			X
11b10	CP	VG Loop Start Signaling - Type LA	X	X			
11b11	CP	VG Loop Start Signaling - Type LB	X	X			
11b12	CP	VG Loop Start Signaling - Type LC	X	X			
11b13	CP	VG Loop Start Signaling - Type LO	X	X			
11b14	CP	VG Auto Ringdown	X	X			X
11b15	CP	VG Loop Start Signaling - Type LS	X	X			
11b16	CP	VG No Signaling	X	X			X
11b17	CP	VG E&M Signaling	X	X			
11b18	CP	VG Ground Start Signaling	X	X			
11b19	CP	VG Data Stream	X	X			X
11b20	CP	VG Basic - No Signaling	X	X			X
11b21	CP	VG Res Bridging (Voice) 2-Wire	X	X			
11b22	CP	VG Res Bridging (Data) 2-Wire	X	X			
11b23	CP	VG Residential Bridging (Voice/Data) 4-Wire	X	X			
11b24	CP	VG C Conditioning	X	X			
11b25	CP	VG Data Capability	X	X			
11b26	CP	VG Improved Attenuation Distortion	X	X			
11b27	CP	VG Effective 4-Wire Transmission	X	X			
11b28	CP	Local Area Data Service (LADS)	X	X			
11b29	CP	Audio Service	X	X			
11b30	CP	Audio Service	X	X			
11b31	CP	Audio Service	X	X			
11b32	CP	Audio Service	X	X			
11b33	CP	Digital Data Service	X	X	X		X
11b39	CP	DD Central Office Bridging	X	X			
11b40	CP	DD Public Packet Switching Network	X	X			
141	56 Kbps - 1 PVC		X	X	X		
14b	1.544 Mbsp - 2 PVCs		X	X	X		

[84] The list of channel performance functions may not encompass all the options offered by the LECs. All additional functions should be unbundled.

[85] GTE has not specified unbundled channel performance functions.

ANCILLARY SERVICE BUILDING BLOCKS		STAFF	USWC	GTE	UNITED
12a	Intercept		X	X	
12b	Operator Assistance		X	X	
12c	Measurement Polling		X	X	
12d1	Billing & Collections IAB (Access)		X		
12d2	Billing & Collections CRIS (MTS/Local)		X		
12d3	Billing & Collections CRIS (WATS/800)		X		
12d4	Billing & Collections (Loop) Weighted		X		
12e	Customer ID Charge (800)		X	X	
13a	Operator Service Charges - Basic Calling Card		X	X	
13b	Operator Service Charges - Station (include. Connect to DISAGGREGATE)		X	X	
13c	Operator Service Charges - Person		X	X	
13d	Operator Service Charges - Busy Line Verify		X	X	
13e	Operator Service Charges - Busy Line Interrupt		X	X	
15a	Directory Assistance		X	X	
15c	Main Directory Listings Weighted		X		
15e	Premium Listings		X	X	
15f	Private Listings		X	X	
15k	Information and Billing Services Data		X		
	USWC - TLS DATA LINK		X		
	USWC - FIXED INTER RING		X		

ENHANCED 911 BUILDING BLOCKS		STAFF	USWC	GTE	UNITED	
17a	Enhanced 911 - Code Recognition		X	X	X	X
17b	Enhanced 911 - Automatic Number ID		X	X	X	X
17c	Enhanced 911 - ALI		X	X	X	
17d	Enhanced 911 - ALI/Selective Routing		X	X		
17e	Selective Routing Incoming Trunk		X	X		
17f	Selective Routing Outgoing Trunk		X	X		
17g	Enhanced 911 - ALI Node Port		X	X		

SS77 BUILDING BLOCKS		STAFF	USWC	GTE	UNITED
	SS7 SSP		X		
	SS7 STP		X		
	SS7 SCP		X		
	SS7 ACCESS LINK FACILITIES		X		
	SS7 BRIDGE LINK FACILITIES		X		
9a	SS7 SIGNALING PARAMETER (ISUP)		X		
9b	SS7 SIGNALING PARAMETER (TCAP)		X		

APPENDIX C
COMMISSION APPROVED BUILDING BLOCKS AND BUILDING BLOCK RATES

	MONTHLY RATES
NETWORK ACCESS CHANNEL (NAC)	
BASIC NAC (2-wire)	$11.95
ISDN NAC	$11.95
BASIC NAC (4-wire)	$23.90
DS1 AND PRIMARY ISDN NAC	$56.05
DS3 NAC	$308.66
DARK FIBER	#
DIGITAL NAC (FOUR WIRE)	#
NETWORK ACCESS CHANNEL CONNECTION	
JUMPER NAC DS0 (2-wire)	$0.50
JUMPER NAC DS1 (4- wire)	$10.55
JUMPER NAC DS3 Electrical	$10.55
JUMPER NAC DS3 Optical (Fiber)	$37.35
NACC DS-O SWITCHED LINESIDE	$1.20
NACC DS-O SWITCHED TRUNKSIDE	$1.20
NACC DSO-DEDICATED	$0.21
NACC DS-1 SWITCHED LINESIDE	$44.28
NACC DS-1SWITCHED TRUNKSIDE	$44.28
NACC DS1-DEDICATED	$0.21
NACC DS-3 DEDICATED	$0.84
NACC ISDN	$1.20
NACC FRAME RELAY	$0.25
NACC SMDS	$0.85
NACC ISDN EXT (> 18K')	$22.91

BUILDING BLOCKS	MONTHLY RATES
INTERCONNECTION BUILDING BLOCKS	
DISTRIBUTING FRAME TERM 2-WIRE	$0.20
DISTRIBUTING FRAME TERM 4-WIRE	$0.40
FIBER OPTIC TERMINATION	#
CROSS CONNECTION DS-0	$0.21
CROSS CONNECTION DS-1	$0.21
CROSS CONNECTION DS-3	$0.84
CROSS CONNECTION OC-N	#
MULTIPLEXING DS-1 TO DS-0	$152.89
MULTIPLEXING DS-3 TO DS-1	$188.69
DATA CHANNEL TERMINATING EQUIPMENT	$0.56
TESTING ACCESS	#
INTRA-PREMISE RISER CABLE FACILITIES	#
LOOP CONCENTRATION	#
RSD INTERCONNECTION	#
IDLC INTERCONNECTION	#
INTERIM NUMBER PORTABILTY	#[86]
SWITCHING	
TANDEM SWITCHING PER MINUTE	$0.003330
END OFFICE SWITCHING PER MIN ORIG	$0.011803
END OFFICE SWITCHING PER MIN TERM	$0.023606
END OFFICE SWITCHING PER MIN INTRA OFFICE	$0.005000

Originating and terminating switching rates include an adjustment for the elimination of the intrastate Common Carrier Line Charge (CCLC). Carriers purchasing switching out of the Access tariffs must continue to pay the intrastate CCLC. Carriers that purchase switching out of the building block tariff do not have to pay the CCLC.

[86] Rates and Costs are under review in UT 129 and UT 130.

BUILDING BLOCKS	MONTHLY RATE
INTEROFFICE TRANSPORT	
TRANSPORT TERMINATION SWITCHED /0 per minute	$0.00
TRANSPORT TERMINATION SWITCHED /0-8 "	$0.000182
TRANSPORT TERMINATION SWITCHED /8-25 "	$0.000191
TRANSPORT TERMINATION SWITCHED /25-50 "	$0.000193
TRANSPORT TERMINATION SWITCHED /50+ "	$0.000212
TRANSPORT FACILITIES COMMON /0	$0.00
TRANSPORT FACILITIES COMMON /0-8 per minute-mile	$0.000017
TRANSPORT FACILITIES COMMON /8-25 " "	$0.000017
TRANSPORT FACILITIES COMMON /25-50 " "	$0.000017
TRANSPORT FACILITIES COMMON /50+ " "	$0.000020
TRANSPORT TERMINATION DEDICATED DSO - - per termination	$17.85
TRANSPORT TERMINATION DEDICATED DSI - - per termination	$29.90
TRANSPORT TERMINATION DEDICATED DS3 - - per termination	$287.00
TRANSPORT FAC DEDICATED DS0 /0	$0.00
TRANSPORT FAC DEDICATED DS0 /0-8	$0.13
TRANSPORT FAC DEDICATED DS0 /8-25	$0.15
TRANSPORT FAC DEDICATED DS0 /25-50	$0.13
TRANSPORT FAC DEDICATED DS0 /50+	$0.13
TRANSPORT FAC DEDICATED DS1 /0	$0.00
TRANSPORT FAC DEDICATED DS1 /0-8	$2.61
TRANSPORT FAC DEDICATED DS1 /8-25	$3.60
TRANSPORT FAC DEDICATED DS1 /25-50	$2.67
TRANSPORT FAC DEDICATED DS1 /50+	$3.03
TRANSPORT FAC DEDICATED DS3 /0	$0.00
TRANSPORT FAC DEDICATED DS3 /0-8	$43.00
TRANSPORT FAC DEDICATED DS3 /8-25	$43.00
TRANSPORT FAC DEDICATED DS3 /25-50	$44.00
TRANSPORT FAC DEDICATED DS3 /50+	$50.00

BUILDING BLOCKS	MONTHLY RATE
SWITCHING FEATURES	
CALL WAITING	$0.07
CALL FORWARD BUSY LINE	$0.19
CALL FORWARD DON'T ANSWER	$0.19
CALL FORWARD BUSY / DON'T ANSWER - CENTREX	$0.17
CALL FORWARD VARIABLE	$0.07
SPEED CALL LONG	$0.07
SPEED CALL SHORT	$0.07
THREE WAY CALLING	$0.13
HUNTING - CENTREX	$0.07
CALL TRANSFER	$0.37
CALL HOLD - CENTREX	$0.00
CALL PICK UP	$0.07
DISTINCTIVE RINGING	$0.09
HOT LINE - CENTREX	$0.30
WARM LINE	$0.07
CALLING NAME AND NUMBER DELIVERY	$4.87
CALLING NUMBER DELIVERY	$4.87
CALLING NUMBER DELIVERY BLOCKING	$0.00
CONTINUOUS REDIAL	$2.50
CUSTOMER ORIGINATED TRACE	$0.91
LAST CALL RETURN	$2.50
PRIORITY CALLING	$2.50
SELECTIVE CALL FORWARDING	$2.50
SELECTIVE CALL REJECTION	$3.50
CENTREX STANDARD FEATURES	$4.30
INTERCOM 6	$0.83
INTERCOM 30	$1.80
DIGITAL FACILITY INTERFACE	$0.61
VOICE MESSAGING	$6.95
CALL ANSWERING - CENTREX	$8.00

BUILDING BLOCKS	MONTHLY RATE
CHANNEL PERFORMANCE AND OTHER FUNCTIONS	
CP LS CONTROL STATUS CHANNEL	$11.77
CP LS MCCULLOH ALARM-TYPE	$3.08
CP LS DC CHANNEL	$1.26
CP LS TELEGRAPH 0-75 BAUD	$10.06
CP LS TELEGRAPH 0-150 BAUD	$12.32
CP LS MCCULLOH BRIDGING PER PORT	$0.00
CP LS TELEGRAPH BRIDGING 0-75 BAUD	$10.75
CP VG CODE SELECT RINGDOWN	$14.90
CP VG MANUAL RINGDOWN	$11.77
CP VG LOOP START SIGNALING - TYPE LA	$11.60
CP VG LOOP START SIGNALING - TYPE LB	$10.94
CP VG LOOP START SIGNALING - TYPE LC	$8.52
CP VG LOOP START SIGNALING - TYPE LO	$8.80
CP VG AUTO RINGDOWN	$11.66
CP VG LOOP START SIGNALING - TYPE LS	$8.80
CP VG NO SIGNALING	$10.45
CP VG E & M SIGNALING	$12.10
CP VG GROUND START SIGNALING	$12.10
CP VG DATA STREAM	$16.66
CP VG BASIC - NO SIGNALING	$4.24
CP VG RES BRIDGING (VOICE) 2-WIRE	$9.20
CP VG RES BRIDGING (DATA) 2-WIRE	$8.76
CP VG RES BRIDGING (VOICE/DATA) 4-WIRE	$12.95
CP VG C CONDITIONING	$0.00
CP VG DATA CAPABILITY	$0.00
CP VG IMPROVED ATTENUATION DISTORTION	$0.00
CP VG EFFECTIVE 4-WIRE TRANSMISSION	$5.80
CP LOCAL AREA DATA SERVICE (LADS)	$3.76
CP DIGITAL DATA SERVICE 2.4 KBPS	$32.41
CP DIGITAL DATA SERVICE 4.8 KBPS	$32.41
CP DIGITAL DATA SERVICE 9.6 KBPS	$32.41
CP DIGITAL DATA SERVICE 56 KBPS	$32.41
CP DIGITAL DATA SERVICE 64 KBPS	$33.63
CP DD CENTRAL OFFICE BRIDGING	$3.06
CP DD PUBLIC PACKET SWITCHING NETWORK	$11.61
56 KBPS - 1 PVC	$29.84
1.544 MBPS - 2 PVCS	$342.60

BUILDING BLOCKS	MONTHLY RATE
ANCILLARY SERVICE BUILDING BLOCKS	
INTERCEPT	
OPERATOR ASSISTANCE	
MEASUREMENT POLLING	$0.0019
BILLING & COLLECTIONS IAB (ACCESS)	Existing tariff rates
BILLING & COLLECTIONS CRIS (MTS/LOCAL)	Existing tariff rates
BILLING & COLLECTIONS CRIS (WATS/800)	Existing tariff rates
BILLING & COLLECTIONS (LOOP) WEIGHTED	$0.75
CUSTOMER ID CHARGE (800)	$0.00
OPERATOR SERVICE CHG - BASIC CALLING CARD	$0.50
OPERATOR SERVICE CHARGES - STATION (INCL. CONNECT TO DA)	$1.30
OPERATOR SERVICE CHARGES - PERSON	$3.00
OPERATOR SERVICE CHG - BUSY LINE VERIFY	$1.40
OPERATOR SERVICE CHG - BUSY LINE INTERRUPT	$1.69
DIRECTORY ASSISTANCE	$0.57
MAIN DIRECTORY LISTINGS EACH	$0.24
PREMIUM LISTINGS	$0.26
PRIVATE LISTINGS	$0.0037
INFORMATION AND BILLING SERVICES DATA	$0.04
ENHANCED 911 BUILDING BLOCKS	
ENHANCED 911 - CODE RECOGNITION	$10.30
ENHANCED 911 - AUTOMATIC NUMBER ID	$21.71
ENHANCED 911 - ALI	$10.02
ENHANCED 911 - ALI/SELECTIVE ROUTING	$10.13
SELECTIVE ROUTING INCOMING TRUNK	$28.07
SELECTIVE ROUTING OUTGOING TRUNK	$33.27
ENHANCED 911 - ALI NODE PORT	$133.92
SS7 BUILDING BLOCKS	
SS7 SSP	#
SS7 STP	#
SS7 SCP	#
SS7 ACCESS LINK FACILITIES	#
SS7 BRIDGE LINK FACILITIES	#
SS7 SIGNALING PARAMETER (ISUP)	#
SS7 SIGNALING PARAMETER (TCAP)	#

APPENDIX D
Abbreviations and Acronyms

ADSRC	Average Direct and Shared Residual Cost
AEC	Alternative Exchange Carrier
ASIC	Average Service Incremental Cost (ADSRC minus Shared Residual Cost)
BOC	Bell Operating Company, e.g., USWC
BSE	Basic Service Element
CCLC	Carrier Common Line Charge
CCSN	Common Channel Signaling Network
CLASS	Custom Local Area Signaling Services
COPT	Customer Owned Pay Telephone
DDS	Digital Data Service -- a set of private line/special access functionalities.
DS0	Analog voice grade line
DS1	A type of high-speed line service, transmitting at 1.544 megabytes per second, the equivalent capacity required to provide 24 voice grade equivalent channels
DS3	Another high-speed line service, transmitting at 44.736 megabytes per second, the equivalent capacity required to provide 672 voice paths or 28 DS1s
DSS	Digital Switched Services
DSX	Digital Cross Connector
EAS	Extended Area Service
EICT	Expanded Interconnection Channel Termination
FCC	Federal Communications Commission
IDLC	Integrated Digital Loop Carrier (also called integrated digital pair gain device)
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
IXC	Interexchange Carrier
LATA	Local Access and Transport Area
LEC	Local Exchange Company
LRIC	Long Run Incremental Cost
LTR	Local Transport Restructure
MSA	Metropolitan Statistical Area
NAC	Network Access Channel; i.e., loop
NACC	Network Access Channel Connection
OCAF	Oregon Customer Access Fund
ONA	Open Network Architecture
PAL	Public Access Line
PBX	Private Branch Exchange
RIC	Residual Interconnection Charge
RSD	Remote Switching Device
SCP	Signal Control Point
SLC	Subscriber Line Charge
STP	Signal Transfer Point
TCAP	Transactions Capability Application Part

TSLRIC	Total Service Long Run Incremental Cost (sum of service specific volume sensitive costs plus the service specific volume insensitive costs)
UDLC	Universal Digital Loop Carrier